The Builder.

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The Proposed "Registration" Bill.

WE print in another column the statement of reasons against this measure which has been issued by the Royal Institute of British Architects, as the basis of their petition to Parliament against the Bill. The petition itself, of course, is not public property.

If we were to go into this Bill seriously, as we should into such a measure if it emanated from a professional body of high standing and recognised position, it would be easy to point out how cumbrous and practically unworkable is its proposed machinery, in comparison with the means which are at hand to accomplish the ends which are professed to be required, through the agency of the three leading and recognised professional bodies, which have been long existing, viz., the Institution of Civil Engineers, the Institute of British Architects, and the Surveyors' Institution. We do not care, however, to go into this in detail, because the real reasons against the measure are of a different kind. We may, however, point out that, on the face of the Bill, its immediate effect would be to give registration to a number of people of whom we can have no positive knowledge that they have the qualifications which the Bill professes to desire to secure. The principal clause of Section 19 shows this conclusively. It is as follows :—

"19. Every person who at the date of the *passing of this Act* is a fellow member, associate member, or professional associate of any of the bodies mentioned in the Schedule (A) to this Act, or who is an associate of the Royal Institute of British Architects, shall, on payment of a fee not exceeding *three pounds*, in respect of such evidence of qualifications obtained before the *first day of January one thousand eight hundred and eighty-nine*, and not exceeding *five pounds* in respect of such evidence of qualifications obtained on and after that day, be entitled to be registered on producing to the registrar of the branch council for England, Ireland, or Scotland the document conferring or evidencing the class of practice and qualification, or each of the qualifications, in respect whereof he seeks to be registered, and of the time or times at which the same was or were respectively obtained. Provided always, that it shall be lawful for the several bodies mentioned in the said Schedule (A) to transmit from time to time to the said registrar lists certified under their respective seals of the several persons who in respect of such membership are for the time being entitled to be registered under this Act, stating the class of membership and other qualifications, if any, respectively, and places of residence, of such persons; and it shall be lawful for the registrar thereupon, and upon payment of such fee as aforesaid in respect of each person to be registered, to enter in the register the persons mentioned in such lists, with their qualifications and places of residence as therein stated, without other application in relation thereto."

The "Schedule A" referred to is as follows :—

"SCHEDULE (A).

1. The Royal Institute of British Architects.
2. The Institution of Civil Engineers.
3. The Royal Institute of Architects, Ireland.
4. The Institution of Civil Engineers, Ireland.
5. The Society of Architects.
6. The Society of Engineers.
7. The Architectural Association.
8. The Surveyors' Institution.
9. Birmingham Architectural Association.
10. Glasgow Institute of Architects.
11. Glasgow Architectural Association.
12. Liverpool Architectural Association.
13. Liverpool Architectural Society.
14. Leeds and Yorkshire Architectural Society.
15. Leicester and Leicestershire Society of Architects.
16. Manchester Society of Architects.
17. Manchester Architectural Association.
18. Northern Architectural Association.
19. Nottingham Architectural Association.
20. York Architectural Association.
21. Sheffield Society of Architects and Surveyors.
22. Association of Municipal and Sanitary Engineers and Surveyors.
23. The Bradford Society of Architects and Surveyors."

The majority of these societies have no entrance examination, and, probably, no test for membership beyond that usual in any ordinary club or society,—proposal by a member, and the usually not very carefully exercised right of voting among members; and the Society of Architects, which promotes the Bill, thus gets itself put on a level with such really representative societies as the two first-named on the list. Of the constitution of many of the provincial societies named we do not know very much: some of them we know generally to be societies of good name, and including men of considerable ability in their ranks, but that is all. The first sub-clause of section 19 provides further that,

"Any person who was actually practising architecture, civil engineering, or surveying prior to the *first day of January one thousand eight hundred and eighty-three*, or who has served as apprentice, assistant, or practitioner in architecture, civil engineering, or surveying, all or either, for seven years in the aggregate after having attained the age of fifteen years prior to the *passing of this Act*, shall, on payment of a fee to be fixed by the general council, and pending the fixing of the fee by the general council a fee of *five pounds*, be entitled to be registered as architect, civil engineer, or surveyor, as the case may be, on producing to the registrar of the branch council for England, Ireland, or Scotland a declaration according to the form in Schedule (B) or (C) to this Act, signed by him, or upon transmitting to such registrar information of his name and address, and enclosing such declaration as aforesaid."

The declarations referred to merely recite the facts indicated in the above clause. Again, by section 44, it is provided that any person possessing a diploma granted to him in any British possession among the colonies, or (45) any recognised foreign diploma, and who can show that he "has practised architecture, civil engineering, or surveying in such British possession," or "in such foreign country" (as the case may be), shall be entitled without examination to be registered as a colonial practitioner or a foreign practitioner. And at the end of the Act is this definition of a "diploma" :—

"The word 'diploma' means any diploma, degree, fellowship, membership, associateship, licence, authority to practise, letters, testimonial, certificate, or other status or document granted by any university, professional body, college, or other body, or by any departments of or persons acting under the authority of the Government of any country or place within or without Her Majesty's dominions."

After this we should imagine the dullest person could hardly fail to see that the real object has been to get a numerical majority in favour of passing the Act, and to make matters as easy as possible for the numerical majority. And this is supposed to be a Bill for raising the character and status of the profession! or rather of the three professions dealt with, for engineers, architects, and surveyors are all proposed to be reformed by their kind and benevolent friends of the Society of Architects, who are so concerned for their welfare and that of the public.

It is all nonsense to say that in no case are we to question the motives of those who bring forward what they are pleased to call measures of public good. Common-sense people judge by circumstantial evidence. We know that the committee for the propounding of this Bill is a kind of offshoot of the Society of Architects. The said Society was first heard of or proposed in a correspondence in a certain journal, and the publisher of that journal and the reporter

attached thereunto were among the first members of this Society of Architects, the former being at once made a member of the council. Neither of them, of course, is an architect, and both are members now, and the reporter was the member selected to respond for the society at a dinner given shortly after its formation by a provincial member (also not an architect). The Society does not number a single architect in anything like the first rank of the profession among its members, and only a very small minority whose names are known at all; and of these several are known to ourselves by their having offered us designs for publication which were of too inferior a type to be accepted. The numerical majority are unknown names, and we very much doubt whether all of them are architects in the proper sense of the word. The Bill is framed so that this Society, thus constituted,* should be put on a level, in most cases, with the recognised and chartered professional societies: in short, if it were passed, it is the making of the Society, which has now a very doubtful status. To the methods which the committee have adopted in recommending their cause to the profession at large we have several times referred in terms not plainer than the occasion demanded. When we see a committee sending round a printed circular stating that they "represent all existing societies," knowing well that in the common acceptation of words such a statement was absolutely untrue; when we find them, as we saw the other day, sending out a circular with a quotation from a portion of the remarks of the late President of the Institute to make him appear as a witness in their favour, suppressing that portion of the sentence which would have shown that he was in reality opposed to them; when we see people availing themselves of the title "F.R.I.B.A." to give consequence to their letters in the papers, while they are doing all they can to undermine and injure that very Institute which gives them this style and title; when we see tactics of this kind practised, we know what to think. Men of common sense know very well that those who are actuated by an unselfish desire for the good of the public and of their profession do not set about operations in that kind of way; do not employ that style of weapon. The fact is that the people concerned with this Bill are playing what the Americans call "a game of bluff." If they can carry their Bill, they have won the trick. It is a poor and contemptible sort of game; so much so that there is a kind of indignity in even recognising or combating it; and it is to be hoped that the action of the House of Commons next week will be such as to render any further reference to it unnecessary.

That a measure framed in this way, and recommended by tactics of this kind, should be attempted to be thrust in front of the recognised and representative bodies of the three professions, appears to us at once one of the most absurd and one of the most impudent proceedings that we have heard of amid the annals of professional polemics. To pass such a Bill, brought forward under such auspices, would be simply an insult to the three great representative bodies of engineers, architects, and surveyors. With regard to the Institute of Architects, concerning which we have, perhaps, the more special right to speak, there is no favouritism on our part. Though the present conductor of this journal is, like his predecessor, a member of the Institute, he has never taken any part in its direction; and the *Builder* has not infrequently been a pretty plainspoken critic in regard to the proceedings of the Institute. There have been times when we have certainly thought the Institute a rather sleepy body. But we have not thought so recently. On the contrary, we do not believe that any representative professional body could have worked better and more loyally for the interests of the profession it represents than the Institute has done during the last few years. It has merited, in our opinion, the best and most loyal support of the profession at large; and those provincial bodies who have sent petitions in favour of this *ad captandum* Bill have acted either very foolishly or very disloyally, or both. They have been false to a body which has always (even in its "slower" days) done its best to uphold the dignity and respectability of the profession, and have thrown themselves into the arms of adventurers who are prosecuting their cause by means quite the reverse of respectable. It is to be regretted that there are a few very eminent architects who stand aloof from the Institute: that is where the engineers have the advantage over the architects; they are a more united body. But this is the fault of the said eminent architects, not of the Institute. We candidly admit that these eminent dissenters would gain nothing for themselves by joining the Institute. But they would be doing good to the Profession at large by doing so; and they would show more public spirit if they would recognise that aspect of the case in a practical manner.

This, however, is beside the immediate question. Our point is, that if any decisive change is to be made in the qualification for the practice of the architectural profession, it is in conjunction and in consultation with the Institute of Architects that it should be made, not in league with a new Society of more than questionable status. And this leads us to a word as to the general question under consideration. Is it desirable that architecture should be put on the same footing as the legal and medical professions, and be made a closed profession under a registration sanctioned by the State? The question is not so easy as some people suppose. There are two sides to it. The real value of architecture to the world is as an art. That is the value which it has in regard to all the great works of past ages. The front of Peterborough is badly built, but it has stood somehow, and has been a glory and delight to successive generations. The new front of St. Alban's is much better built, constructively, but who cares for it? That is the plain fact, and you cannot examine in art. It may be a question, even, whether examination in construction would ensure any safety to the public which cannot be more surely attained by the general rise in the standard of education and of professional responsibility which we now actually see in progress. We have already referred to the case of the Tay Bridge disaster, as the worst and most discreditable constructional disaster on record in this country, and which, nevertheless, no system of examination for the engineering profession would have done anything to prevent: it was due to faults quite apart from any question of professional skill or knowledge. Nevertheless, construction is the basis of architecture, and our convictions lean rather towards an examination to prove proficiency in the practical basis of the profession. But the Institute of Architects has already instituted such an examination for membership of its body; one which is all that could be wished for the purpose, and is far more searching and more efficient than any examination which is likely to be conducted under the heterogeneous authorities named in the absurd Bill under discussion. If it be thought that such a step would be for the general advancement of the architectural profession and for the public good, let the State recognise the Institute examination, and that of the Institution of Surveyors, and confer with the Institution of Civil Engineers as to the establishment of an examination for entrance into their body. They would then be associating with such a movement the three bodies which are really eminent and representative, and which have the first claim to be consulted, and would obtain the proposed end more effectually, without the imposition of new fees or the construction of new and cumbrous machinery. To pass a Bill in such a form and under such auspices as that now brought forward would be to legislate not so much for the "registration" as for the "degradation" of the architectural profession.

* We are informed that at the eleventh hour the Society have thought it prudent to relegate their non-professional members to a section of "Honorary Associates." But that is little to the point. They are people who would have no chance of election to such a body as the Institute of Architects, either as Honorary Associates or in any other capacity.

ANTIQUE CARVED FURNITURE AND WOODWORK.

THE folio book of illustrations which has been brought out by Mr. Arthur Marshall under this rather vague title,* is not, as might be supposed from its name, a book in illustration of the subject of carved furniture generally, without limit as to time or place, but a collection of examples of English work only, from the fifteenth to the eighteenth centuries. There is plenty of this, of course, to make a very good volume, but the title is rather misleading.

The examples are taken, we are told, from authentic specimens in private collections, or such as are accessible only to the few; and the author observes that, as many pieces of old furniture of this type are being sold out of the country, and others losing their interest by being taken to pieces and re-modelled, "it is important, if we are to retain the recollection of these splendid relics of the honest work of our forefathers, that some reliable record of them should be preserved." The expression, "honest work," is exceedingly applicable to the class of work represented in these specimens,—work which is mostly not very highly finished or elaborated, but which is solid and durable in construction, and eminently "woodworky" in its style of decoration.

The book is one of the best of its kind that we have seen, as far as the main element, the illustrations, are concerned. These consist of fifty large plates of furniture of various types, mostly measured drawings in elevation, a few perspectives, and a few pages of large size details. There are, besides these plates, a large number of cuts, showing other bits of woodwork of the same school, interspersed in the text, some of them illustrating details of the works shown in the adjoining plates, a good many of them additions in the way of extra illustrations. The work has evidently occupied a good deal of time, and has been done with conscientious care; the drawings are bold and effective, and convey successfully the appearance and character of the style of work which they illustrate.

The style is mostly English Renaissance. There are two or three examples of late Gothic, all of which are interesting and characteristic specimens, but the bulk of the designs are of seventeenth or early eighteenth century work. The detail of these works is all of a broad and effective character, but it has not very much variety; the same kind of detail meets the eye again and again, and though always suited to the material, and in that sense praiseworthy, there is nevertheless a certain degree of clumsiness about it which is not a quality to be imitated. We throw out the warning because the author, in his introduction, rather suggests that the book is one that may be of use to wood-carving classes. So it may, for suggestion: not for imitation. If we take the "Old Settle at Retford," shown in Plate 17, we find three tiers of panels filled with conventional foliage, of which the middle and lower tier are exceptionally good in regard to breadth of style and the kind of conventionalism of natural forms that is employed, and which is wholly in keeping with the character of woodwork. But there is, nevertheless, something rather coarse and barbaric about the style of this work; the foliage is stiff and inelegant in line, and the weakest point about it is that although the carving of each panel is a separate operation, nevertheless, every panel in the same tier (there are five in each tier) is an exact reproduction of the rest. This shows a poverty of invention and a want of feeling for the effect of variety in carving in such a case; that kind of variety in unity which consists in carving all the repeated portions in unity with each other in general effect, but with variety in detail. This carved settle is a fine thing, but might have been a finer one with the space and the opportunities given to the carver. It represents, however, one of the richer types of detail of the period; a detail which is apt to appear

* Specimens of Antique Carved Furniture and Woodwork. Measured and Drawn by Arthur Marshall, A.R.I.B.A., Architect. London: W. H. Allen & Co., Publishers to the India Office. 1888.

more rich and effective in a good drawing than it does in the executed work. The date of this settle is 1704, though in spite of its date it retains a degree of distinctly Gothic feeling, which is rather oddly at variance with the prevalent style of other pieces of about the same date. Two of the horizontal bars are decorated with naturalistic foliage in the shape of an alternate leaf and bunch of fruit springing from opposite sides of a zigzagged stalk, in a manner very common in late Gothic work. The real date betrays itself mainly in the row of semicircles with radiating filling which decorates the bottom rail.

This kind of symmetrical ornament, the repetition of simple forms of circle, semicircle, or forms derived from the Classic dentil and egg-and-arrow detail, constitute the main materials of the decoration of the woodwork of the period illustrated. A good example of these combinations is shown in the old overmantel from Nottingham, which forms plate 42 in the book, and of which we give in the present number a lithograph reproduced from the author's original drawing. The lower portion of this furnishes a good example of the effect produced by the combination of a simple form of ornament in large masses. The remainder of the ornament here is mostly a simplified form of Classic detail. The author calls it Elizabethan, but gives no date. If it is really an earlier work than the 1704 settle which we have just mentioned, the detail of the two seems a curious inversion of historical sequence; certainly that which is dated 1704 is much nearer to Mediæval form and spirit than that of which we give an illustration. The latter, however, though less rich in effect, is the better designed work, and we have selected it for illustration on that account. There is a fine and effective contrast between the rather large and rich effect of the lower portion and the inlaid panels of the upper portion.

Among the other plates in the book some may be mentioned as of more especial interest. Among these is the very Classic-looking cabinet dated 1612, shown on plate 10, and which, as the author observes, is remarkable for its thorough harmony of design and detail, with a delicacy and reserve in its treatment in which it rather stands alone among the other works illustrated. It came from the "New Farm," Kirklington, in Nottinghamshire, and is now in the possession of a gentleman residing near Liverpool. The cabinet at Gamston Church, Notts, is a piece of furniture remarkable rather for its characteristic general design than its detail, consisting of a cabinet of semi-octagon shape fitted in between two shelves which are rectangular in shape. The Mausoleum Screen at Milne (plate 19) with its open-work tracery panels (date 1624) is a fine and rather unusual example. There are many other illustrations worth attention; all, indeed, are more or less good and interesting; but in the way of study they should be looked at, as we have already said, for suggestion, not for imitation.

Mr. Marshall, who has evidently been much among old woodwork, genuine and imitation, gives some curious details as to the extent to which the falsification of examples is carried in the forging of old furniture. He has known cases where the rusty heads of old nails were forced into the holes made by new screws to conceal them:—

"I have also known instances where the carving of made-up pieces of furniture has been covered with clay, and brushed when dry, so that the sharp edges of the modern carving would be gently softened off; the effect of the clay being also to produce a somewhat similar appearance to an old barn-door. The gloss peculiar to the friction of the clothes, head, or hands with oak is perfectly imitated, and the application of a wire brush to the naked oak has the effect of rubbing away the soft portion of the grain and producing an impression of great antiquity. Dates and names upon old furniture, unless properly authenticated, must be looked on with the greatest suspicion. At a recent sale in the provinces a large number of examples were put up, bearing the names and coats of arms of half the leading families in the county, and most of them dated; however, the fact that so large a number of what purported to be valuable specimens should so suddenly become unearthed was sufficient evidence in itself against their being genuine. Spurious examples are often placed in the roadside cottages of districts much frequented by tourists; and the deception is heightened by the story respecting their origin, which the tenant has off by heart."

All this, we have no doubt, is perfectly true, and the innocent and trusting collector should be indebted to Mr. Marshall for a useful warning. One or two pieces of æsthetic criticism contained in the book are more open to question. The author is a votary of symbolism, and sighs for the time when a meaning was given to carved woodwork panels by such gentle jokes, for instance, as the rebus of Abbot Islip, one form being a human eye and a small branch or *slip* of a tree; another a man falling from a tree and exclaiming "I slip!" Does the author really think that additional artistic interest is imparted to any work by this sort of child-like puzzle? Apparently he does, for he shows that he has the courage of his convictions by giving an illustration of a symbolic design of his own, the cover of an address presented to a Member of Parliament, whose district included a large oak-growing forest country. "The oak foliage on the cover represents the leading characteristic of the district, namely, the forest, from which spring on the right and left the forest plants, the constituents" (observe the poetical imagination of this), "and these are bearing the Member's coat of arms and crest, or, in other words, supporting his political principles" (!) This is the first time we have heard that a man's coat of arms and crest represented his political principles. Now, the fact is that the design, as a bit of decorative design, is a very good and effective one, and we admired it on that ground before reading the description of the supposed symbolism, after which we were unable to contemplate it without an idea of the ludicrous. Is it in the same spirit that the author speaks on the foregoing page of "pagan and other meaningless forms of ornament"? and are all pagan forms of ornament "meaningless" because they do not lend themselves to such little riddles as these? On the whole, we should advise the author to stick to design for its own beauty's sake, and leave symbolism alone. However, he has produced a very charming and valuable collection of drawings of furniture, and the only fault that can be found with the volume, apart from the symbolism heresy, is in regard to the crude and inharmonious colours of the binding.

NOTES.

THE excavations begun by the American School of Archæology at Dionuso in January are now complete. A full report will be published probably at the close of the year, in the Transactions of the Society, but as, by the kindness of the Director, Professor Merriam, we were able to visit the site, we may note in advance some of the principal results. It is much to be regretted that the objects discovered cannot be brought to the Central Museum. The owner of the land refuses to allow this to be done, and will not sell them; they therefore remain in his custody, and those who wish to study them must do so *in situ*. We must pass over the inscriptions, though we cannot leave unnoted the important fact that those found fix the site as the centre of a local Dionysiac cult in the deme Icaria. (Where precisely this deme was, was hitherto uncertain.) The ground plan of a building has been made out, which in all probability is the shrine of Dionysos, but much more certain and satisfactory are the remains of a shrine of the Pythian Apollo. A slab forming the threshold is distinctly inscribed, "The Pythian of the Icarians." The remains of a semicircular Choragic monument are also to be seen *in situ*. Turning to sculpture, the most remarkable "find" is a sculptured funeral relief. The head is broken off, but the whole of the figure is well preserved. Another votive relief is of an interesting type, and represents Apollo seated on a round object, very like an omphalos; he holds in his right hand a branch, in his left a phiale; before him is an altar, to which a worshipper approaches, behind him Artemis with extended arms. Two curious slabs carved on both sides represent the sacrifice of a goat to Dionysos. The head of a child reminds the spectator strongly of the child Dionysos in the arms of the Praxitelean Hermes. A colossal head of Dionysos has also come to light, but the body is missing. On the whole, though the details of part of the ground plan of the excavations are very obscure, the Americans may be congratulated on having established the topography of an important deme, and also sufficient evidence of the existence of two local cults.

MR. RUSSELL FORBES, of Rome, has published recently in his *Directory and Bulletin* for March 15th (a bi-monthly paper published in Rome) a topographical study on the site of Tres Tabernæ, or Three Taverns, as it is translated, mentioned in Acts xxviii. 15, where the disciples met Paul on his road to Rome. It would appear that there were two places of that name, one on the Flaminian Way, three miles from Terni, at a place now called Ponteconfino, where the Emperor Alexander Severus (the Cæsar Flavius Valerius Severus) was murdered, and another on the Appian Way from the Porta Capena, 9 English miles 326 yards from the Porta Appia at the junction of the old Appian Way with the new Appian Way at the Colonna farm, near the tavern of Fratocchia. This last place is identified as the site of Three Taverns, where the brethren met Paul. Eustace, in his "Classical Tour," supposed that the village of Cisterna marked the site of Three Taverns mentioned in the Acts. Cisterna is, however, thirty miles from Rome. Sir William Gell, in his "Topography," places it at a distance of twenty-three miles from Rome and seven miles from Ariccia. With regard to Appii Forum, which is mentioned in the Acts of the Apostles in connexion with Three Taverns, and is by some thought to be identical with it, Renan (a very untrustworthy authority in topographical matters) states that its site is covered by the modern San Donato. In this Renan is mistaken, as there is a place now called Foro Appio on the Appian Way, a miserable little village in the midst of the Campagna, while S. Donato is not on the Appian Way, but four miles to the south-west of it. Appii Forum is mentioned by Pliny in his list of colonies as a place of some importance. Mr. Russell Forbes is of opinion that the *Itineraria Picta* or route chart of the roads of the ancient Roman world in the Vienna Library, commonly called the Tabula Peutingeriana, from its reputed discoverer, Conrad Peutinger, which is supposed to be of the period of Theodosius (335-55), and is relied upon by some topographers to fix the sites of towns, &c., is a mediæval forgery. A reprint of this Itinerary was published by Ernest Desjardins in 1869 (Paris: Hachette).

THE "District Railway Guide to London," just published, takes for its text an extract from a speech of Mr. John Bright (1881):—"I have spent six months there every year for forty years, and yet I know nothing about it. I do not believe that there is a man in it who is fairly acquainted with all the parts and districts of that vast city." The Guide gives us a large map of London, in sections, whereon the nearest station to any spot may be readily found with the aid of a key and indicated co-ordinates. There are also ground plans of the chief railway stations, several useful plans of various spaces and main thoroughfares, together with a suburban railway map, which embraces the area between Watford Junction and Epsom, Hounslow and Woolwich; and copious information as to how access may be gained to any station within these limits. For the pedestrian is furnished a guide, extending over ninety pages of good type. This, whilst necessarily briefer, is far superior in substance to that very inaccurate compilation, Mr. Augustus J. C. Hare's "Walks in London." This portion of the "District Railway Guide" is full of matter, wisely restricted, save here and there, to the repetition of facts. Most of the particulars will not prove to be novel to those who are familiar with the antecedent

labours of Cunningham, Timbs, and other careful writers. Yet they possess the signal merit of bringing details of disappearances and changes down to the present day. In this direction, indeed, considerable pains are bestowed. The letter-press reproduces some mis-statements, it is true. In his recent work the Rev. J. Cave-Brown shows us that the Water-tower at Lambeth House has been wrongly associated with the Lollards' captivity. Our author does not avoid the long-standing error of confounding the Holy Trinity Priory of Nuns Minoresses of St. Clare, in the Minories, settled here by Henry III.'s brother, Edmond, Earl of Lancaster, and his second wife, Blanche of Navarre, with Queen Matilda's earlier Priory of Holy Trinity by Portsoken, at Aldgate. Nor is it by any means a certainty that the mummified head preserved in that former church was the head of Lady Jane Grey's father, the Duke of Suffolk. Good grounds exist for belief that it is the head of Edmund de la Pole, Earl of Suffolk, who was buried in the convent here after his execution, in 1513. He was nephew to Edward IV., and younger son to William, first Marquess and Duke of Suffolk, who was beheaded at sea, off Dover. In this quarter, too, the writer confuses the ancient Marshalsea that stood behind the southern angle of Newcomen (*olim* King) and Borough High streets with the later Marshalsea of Charles Dickens's "Little Dorrit," by the churchyard wall of St. George-the-Martyr. Goldsmith's memorial tablet at the Temple (erected by the Inner Temple Benchers in 1837) has been for some while past affixed to the wall of the triforium of the Round Church. The Mitre Tavern in Fleet-street will be looked for in vain under that sign, for it was converted into a drinking-bar, and re-named "The Clachan," in the summer of 1885. The list on page 37 sadly needs revision as touching the "situation" of some thirty-five of the parish churches named therein. Radcliffe and Kneller were not neighbours in Great Queen-street, and Mary Queen of Scots no longer lies in Peterborough Cathedral. Such defects as these, however, combined with frequent inelegancies of diction, may well be pardoned in an unpretending volume, which, affording so much information, is uncommonly good of its kind, and is sold for the moderate price of sixpence.

ANOTHER extensive clearance is upon the point of being made in the parish of St. Andrew, Holborn. By notice dated the 3rd of February last, the Metropolitan Board of Works have marked for speedy demolition the two blocks of houses, as separated by Fleur-de-Lis-court, that lie between Mount Pleasant and Gray's Inn-road, north and west of the Holborn Union. Thus, will be pulled down all the southern side of Elm-street, Nos. 25-6 in Little Gray's Inn-lane, together with the whole of Fleur-de-Lis-court, and Nos. 28-36 (even), Mount Pleasant. Also the even numbers, 140 to 190,—including the Old King's Head, and the antiquated Swan and Horse-Shoe at Elm-street corner,—in Gray's Inn-road, along its eastern side, being all the premises now standing, some of them already vacated, between the end of Little Gray's Inn-lane and a point over against Henry-street by the northern boundary of the parish. In this destruction are involved, besides, the group of almshouses, from out of which the last removal was made on Saturday last [31st March]. Built originally in 1633 by Alexander Stafford for ten poor housekeepers in the parish, these have since been enlarged by two small wings. They bear a large tablet commemorating a bequest of 500*l.*, under the will of Richard White, of Baldwin's-gardens, hard by, in what was then Gray's Inn-lane, who died October 24, 1748.

SOME human remains, consisting of numerous bones and three skulls, were lately disinterred at a depth of about 18 in. in the garden of Brixworth Vicarage, Northamptonshire. They were found, *teste* a letter to the *Times*, at a spot about 30 yards distant from the churchyard, an ancient one, "surrounding as it does a church admitted by all ecclesiastical antiquaries to be surpassed in age only by St. Peter's [should be St. Mary's] Chapel in Dover Castle, and possibly by parts of St. Martin's, Canterbury." A cell to Medehampstead, since Peterborough Cathedral, is said to have been established here by Abbot Saxulphus or his successor, in the latter part of the seventh century. The parish church of All Saints is reckoned as dating from 690 A.D., and is well known to students of Saxon architecture. Successive alterations have modified the original fabric. It was restored and re-opened in 1866.

WE have had sent to us a working model of a new reversible window-sash patented by Mr. James Millar, of Newcastle-on-Tyne, the special feature of which is the arrangement of the hinge and rebate. The sash is hinged half-way up, or nearly so (at the point where the sash will balance), and the rebate is formed by a projection on the inside of the sash above the centre hinge, and on the outside below the hinge, so that the sash can be turned right round and cleaned from the inside. This fact in itself, of course, is no novelty; but the patentee claims that the arrangement of joint and rebates is more effectively water-tight than in previous patents. It appears from the model to be satisfactory in this respect; we have not had an opportunity of examining one in actual exposure to weather. The method is applicable to the ordinary sliding sash, in which case the use of it would be solely for convenience and safety in cleaning; but the patentee recommends its adoption without the sliding sash movement, opening the sashes on centres, thus escaping all the cords, pulleys, and boxing, and, moreover, as he rightly says, opening the sash in a manner more effectual for ventilation. In that case, however, it would require some simple contrivance for fixing the sash open in any required position, as the mere balancing cannot be depended on to keep it fixed, even independently of the action of wind. It may be mentioned also that by simply unscrewing the screws through the flange attachment of the metal hinge, either sash can be lifted out into the room for more effectual cleaning, painting, or repair, with little trouble. The sash is certainly worth the attention of architects, as simple, not costly, and not having any gearing liable to get out of order. It is secured by any of the usual forms of sash-fastener, at the meeting rails, like an ordinary sash-window.

FROM a letter from Sir John Coode in the *Times* of Wednesday, it appears that very important enlargements are to be made in the Suez Canal, which will probably greatly increase its efficiency for traffic. Sir John Coode writes,—

"Between Port Said and the Bitter Lakes, the straight portions of the Canal are to be ultimately widened to 65 mètres (say 213¼ English feet) instead of 22 mètres (72 English feet) as at present. The widths at the apex of the curves of large radius in this part of the Canal are to be 75 mètres (246 English feet), and in the case of the curves of small radius 80 mètres (262½ English feet); these to be adopted instead of the normal width of 22 mètres existing in 1885, when the report of the Commission was made.

In the straight portions between the Bitter Lakes and Suez the Canal is to be ultimately widened to 75 mètres, and in the curves (all of which in this part of the Canal have a large radius) the width is eventually to be 80 mètres, all these widths being measured at the level of 8 mètres below low water, that being the bottom of the Canal in 1885.

As regards the deepening, the recommendation of the Commission, also accepted by the company, was that the Canal should be deepened from 8 mètres (26¼ English feet) below low water of ordinary spring tides to 8½ mètres (28 English feet) in the first instance, and to 9 mètres (29½ English feet) eventually.

I have good authority for stating that the first instalment of the deepening,—viz., to 8½ mètres,—is expected to be completed for fully one-half the length of the Canal by the end of the present year, and that the entire length will be deepened to that extent by the middle of 1889."

WE have received the first number of *El Ingeniero Civil*, the official organ of the "Sociedad de Ingenieros Civiles" of the Argentine Republic. The paper, judging from the first number at least, seems to be more concerned with railway schemes and projects from a commercial point of view than with engineering matters as generally understood; the only illustrations are a map of existing or conceded railways in the Republic, and a graphic diagram of their respective financial conditions represented by curves on a chart.

THE current number of the *English Illustrated Magazine* contains an article on "Arundel Castle," No. II. of a series on "Old English Homes." The series of articles on "Coaching Days and Coaching Ways" presents real interest to artists and architects from the charming sketches of old nooks and houses along the road, by Mr. Herbert Railton, which accompany each article. These are the perfection of illustrative sketching of this kind, full of light and sunlit effect and suggestion of the texture and character of buildings, without any over-laboured finish.

THE case of McLachlan *v.* Grant, reported in another column, is an interesting and amusing example of the ideas and procedure of the typical architect-baiter. In this case, the architect-baiter, the defendant, was a woman; and perhaps the case may be taken as an illustration of the fact that women, when they are unreasonable in matters of business, are more unreasonable than it is in the nature of any man to be. Miss Grant having directed her architect to prepare plans for a school for 800 girls, at a cost of 2,000*l.*, was very rightly told by her architect, Mr. McLachlan, that it could not be done for that sum. A site was, however, purchased eventually, and plans made, for which tenders were invited, the defendant being again warned by the plaintiff that the plans she was now proposing would involve a much greater cost than she had before spoken of. Accordingly the tenders ranged from 5,787*l.* to 4,852*l.*, whereupon the defendant dismissed her architect, required him to hand the plans over, and proposed to pay a 2½ per cent. commission on what she thought the building ought to have cost, instead of what the lowest contractor estimated it at. The building actually erected is said to have cost from 7,000*l.* to 8,000*l.*, the defendant being her own architect and builder. The building, which we have seen, is, as might be expected, ugly and clumsily designed, and the owner has had to pay much more for it than she would have paid for it under her architect's control, besides the costs of two unreasonable actions. Some parts of the defendant's counter-claim the Judge characterised as monstrous. Among other statements by the defendant (who conducted her own case) the jury were assured that it was iniquitous for an architect to charge five per cent. on the cost of a building, "which meant that for every 1,000*l.* more they spent on a building, they put 50*l.* into their own pockets." Of course it is iniquitous also that a physician should charge a guinea every time he sees a patient, so that the more he prolongs a disease the greater number of fees he gets. Neither system of payment is ideally perfect. People who attacked the *bona fides* of the medical profession on that ground, however, would mostly be considered highly uncharitable and unreasonable. But any stone will do to throw at an architect. However, in this case the client's game of stone-throwing has proved an expensive one, and the result may perhaps be a wholesome check on other ladies and gentlemen of similar tastes.

ARCHITECTURAL CLASSES AT UNIVERSITY COLLEGE, LONDON.

THE examination of the students in the Class of Modern Practice (Architecture) has just taken place, with the result stated below. The work done by all the students who attended the examination was, in the opinion of Professor Roger Smith, creditable; that of those in the first class was remarkably so.

First Class.—Gordon P. G. Hills and A. C. Walker, equal. Each to receive a prize. Harold R. Luck and Oscar Œrtel, equal. E. A. Hellicar.

Second Class.—E. A. Williams.

Third Class.—M. A. Green, H. Lazareck, W. W. Wilson.

LETTER FROM PARIS.

Every year the number of pictures sent in for the *Salon* increases so as to render more and more laborious the duties of the jury of selection. Last year there were 7,377 works sent in, this year the number has risen to 7,640. As only about 2,500 pictures and 800 drawings can be received, the jury (which consists of M. Bouguereau as President, MM. Bonnat, Busson, and Cabanel as Vice-Presidents, and MM. Guillemet, Humbert, Tony Robert-Fleury, and De Viullefroy as Secretaries) is compelled to be exigeant, and up to the present moment, out of 2,850 pictures examined, only 1,300 have been admitted. The jury of selection for sculpture will not be chosen till the 7th.

The exhibition of the French Water-Colour Society is in the meantime attracting a large attendance at the Galerie Georges-Petit. The exhibition is equal in interest to those of former years, and represents most of the known masters of the art in France, together with some new names. Among those which are especially noticeable may be mentioned two views of Toulon and Marseilles, by M. Duez, who has this year abandoned the Normandy coast; two fine Breton landscapes, by M. Français; a series of beautiful compositions by M. Emile Adan; a view of the Luxembourg by M. Zuber, who also exhibits a court on the Parc Monceaux; the drawings by M. Eugène Lami, still young and energetic in spite of his eighty-eight years; the fine drawings of M. Harpignies; and the remarkable, though occasionally eccentric, works of M. Besnard, who as yet is not altogether comprehended of the people. We may also mention the Paris scenes of M. Jean Béraud, the flower and fruit pieces of Mdme. Lemaire, the sea pieces by Mdme. de Rothschild, the very spirited sporting subjects of M. J. Lewis Brown, and the views in London by M. Adrien Marie. We should mention also, in the same gallery, the exhibition of portraits and sketches by Mdlle. Louise Abbema.

Since our last letter, the committee for the decoration of the Hôtel de Ville have made some new appointments. M. Galland, perhaps the only French decorator of the day who understands alike how to treat architecture, ornament, and the figure, has been commissioned to decorate the large lateral gallery of the Salons de Réception with figures and arabesques. In the Salle des Fêtes, the committee has chosen as the subject of the principal ceiling (already entrusted to M. Benjamin Constant) "Paris conviant le Monde à ses Fêtes." The two other ceilings, by M. Gervex and M. Aimé Morot, are to represent "Music" and "the Dance" respectively; and six medallion spaces in the ceiling have been entrusted to M. Aublet.

In the competition for the decoration of the new Mairie of the Sixth Arrondissement, to which we have already referred, M. Henri Lévy has been successful. The three subjects which he is to paint on the ceilings are as follows:—First ceiling, Equality, under the shield of Law, presiding over the duties of all the citizens; second ceiling, the City of Paris offering the sacrifice of her children fallen in defence of Liberty; third ceiling, Fraternity extinguishing national enmity and bringing men into union and concord. The choice of the jury confirms the opinion we have already expressed as to the merit of M. Lévy's work.

M. Benjamin Constant, to whose name we just now referred, is at present engaged on an important work commissioned by the State for the decoration of the New Sorbonne. The commission includes three large compositions. In one, which personifies the Academy of Paris, the painter has grouped all the Deans of the Faculty of Paris; the two others symbolise Science and Literature. M. Wenker is also completing a large composition intended for the Sorbonne, and representing the laying of the first stone of the building in 1885. This scene serves as an occasion for introducing the portraits of all the modern celebrities of the Sorbonne.

At the École des Beaux Arts, M. Paul Sédille has, at the request of the pupils of the late M. Guénepin, undertaken the direction of the deceased architect's *atelier*, of which he was himself one of the most brilliant and successful pupils. The second competition for the Grand Prize of Architecture has just been adjudicated; the subject given being "An Archæological Institute." After a long discussion, the Académie has passed, for residence in Rome, the following students: M. Cousin, pupil of MM. Coquart and Gerhardt; M. Belesta, pupil of M. André; M. Eustache, pupil of M. Ginain; M. Louvet, pupil of MM. Louvet and Ginain; M. Heubes, pupil of M. Pascal; M. Conil-Lacoste, pupil of M. Ginain; M. Tournaire, pupil of M. André; M. Sortais, pupil of MM. Daumet and Gerault; M. Leroy, pupil of MM. Coquart and Gerhardt; and M. Huguet, pupil of M. Blondel. M. Louvet, whom we have mentioned among the number, has obtained also the prize in the Achille Leclère competition, for which the subject was "A Salle des Fêtes for a Mairie in Paris."

There is a whole regiment of new statues appearing on the horizon. While we are awaiting the inauguration of the statue of Etienne Dolet on the Place Maubet, that of the Gambetta monument (which has been postponed), and that of Etienne Marcel, which it is intended should coincide with the National Fête, there is just now being exhibited a design which a committee, formed for the purpose, wishes to erect to the memory of Lafontaine. The sculptor is M. Dumilâtre, who has executed some good works, but the design is rather too fanciful and deficient in simplicity, and the artist has had the singular idea of grouping round the pedestal on which the bust of Lafontaine is placed the list of animals which are made to speak in his fables,—lion, fox, ape, crow, wolf, lamb, &c.; a whole menagerie indeed, which has not a very decorative effect, and seems much at variance with the repose and simplicity which should characterise a monument. The work, which stands about 22 ft. in height, is intended for the lawn at Ranelagh. We are also threatened with a statue of the old revolutionist Raspail, which is to be erected at the angle of the Boulevard Raspail and the Boulevard Montparnasse. There is to be noted also the statue of the deputy Baudin, now in course of execution; that of Arago, of which M. Oliva has just completed the model; that of Lançon, the animal painter, intended for the Montparnasse Cemetery; and, lastly, the monument to Paul Bert, of which the sculptural portion is by M. Paynot and the architectural design by M. Blavette.

M. Lisch, the architect of the St. Lazare, has been commissioned to design a monument to the memory of Joan of Arc for the town of Rouen. The monument, in the style of the Renaissance, will be hexagonal in form, and surmounted by a cupola covering a statue of the heroine, executed by M. Paul Dubois. The cupola itself will be terminated by a group designed by M. Jacquemart: "St. Michael slaying the Dragon."

After a winter of exceptional severity Paris begins to feel the first breath of spring, and building operations, interrupted by the frost and snow, waken into life again. The scaffolding for raising the enormous principals of the Galerie des Machines of the Exhibition is now ready, and the Eiffel tower slowly progresses. Among the structures actually complete on the Champ de Mars and its neighbourhood we may mention the Pavillon de la Presse, built from the designs of M. Vaudoyer. Among the curiosities to be collected near this portion of the exhibition will figure a very complete reproduction of a coal-mine, with pits 150 ft. deep, and all the apparatus of ascent and descent, &c., in use in the French coal-pits.

Paris has just been given, within the last few days, another artesian well, commenced twenty-two years ago on the Place Hébert, in the Eighteenth Arrondissement. The well is over 2,000 ft. deep, and the cost has been about 3,000,000 francs.

There are two other artesian wells in Paris. The first in date of construction is that of Passy, commenced in 1855 and completed in 1862. The boring was carried out under M. Kind, civil engineer. The exterior aspect of the well-head shows a mass of artificial rocks covered with foliage, from which the water escapes into an octagonal basin. The other artesian well occupies the centre of the Place de Breteuil, in the Seventh Arrondissement. The external design over this was constructed in 1857–8 by M. Delaperche, under the direction of the late M. Belgrand. It is about 130 ft. high, and consists of a circular basement, 9 ft. high, terminating by an immense torus. The well proper is sunk in the centre of this basement stage. An external staircase of iron conducts successively to four hexagonal terraces, one over the other, surrounding a column or tower, by means of which the waters were originally intended to have been raised beyond the ground level, and which terminates with a lantern and a balustrade. The artesian well, the fountain of which it was intended should be aërated by means of this tower, was pierced, from 1833–41, by the engineer Mulot; but the ascending force of the water was not such as to permit of this column being utilised for the intended purpose. The column was one of the curiosities of Paris at the time,—already so far from us,—when large constructions in iron were seldom seen.

The Société Centrale des Architects has lost one of the most learned and devoted of its members, M. Jules Charles Joseph de Mérindol, who was born at Milan, of French parents, and was for many years attached to the Commission des Monuments Historiques, for which he had executed some works of great interest. Among the number may be mentioned a magnificent water-colour of the Mausoleum of Georges d'Amboise, exhibited in the *Salon* of 1842, and the restoration of the church of Fougombault, which figured in the Universal Exhibition of 1878. M. de Mérindol was chevalier of the Legion of Honour since 1868. We may mention also the death of two painters, of whom one, M. Chas. Camino, had made a speciality of minature portraits. The other to whom we refer, Theodore Frère Bey, had resided a long time in Egypt, and chiefly devoted himself to Oriental scenes and landscapes. He was a pupil of Leon Cogniet and of C. Roqueplan, obtained a medal in 1848, and was a clever and conscientious artist, whose loss will be felt by those who were acquainted with his works and with himself.

THE NORTH WOOLWICH GARDENS AND THEIR VICINITY.

In that sheet of the District Surveyors' Map of London and Suburbs which we published with our number for January 1, 1887, are marked the Pavilion Gardens, North Woolwich. The gardens, though on the river's left bank, are, in fact, part of the county of Kent. They extend to the foreshore, opposite to Woolwich, being in full view of Woolwich Reach and the Galleon's Reach, memorable for the wreck there of H.M.S. *Grampus*. The Bishop of St. Albans' Fund,—with the Duke of Westminster as its chairman of committee,—for securing these 12 acres as a public recreation-ground has proceeded apace since its establishment some fifteen months ago. An amount exceeding 15,000*l.* is already promised towards the required total of 19,000*l.* Amongst the subscribers are some City companies; the London and St. Katharine's Docks Company and the Gas Light and Coke Company (Beckton), who have a large local interest in the scheme. It is understood that a contribution by the Corporation depends only upon the ratified renewal of the Coal and Wine Dues.

These gardens, as a popular place of entertainment, have sprung up within the past fifteen years or so in the East Ham Level,—formerly known as the Marshes,—between Ham Creek and the River Roothing or Roding, which streams here flow into the Thames. The village of East Ham, for so we may still call it on this occasion, lies north of the Albert Dock; and is traversed by White Post or Manor-lane, just south of the high road from London through Limehouse and the modern Canning Town, to Barking and Rainham. The recovery of the Marshes from the river by means of drainage and an embankment is generally attributed to our Roman conquerors, in the second century of our era. This theory is supported by the discovery in 1863 of a Roman cemetery at a distance of about 30 ft. westwards of the parish church, as well as by the vestiges in the immediate neighbourhood thereof of a primitive camp. The manor belonged at one time to the Abbey at Waltham Holy Cross, and its possession was confirmed by Edward the Confessor. Yet the manor does not seem to have formed parcel of the Abbey possessions, which, having been distributed by the Conqueror amongst his followers, were subsequently regained by Henry II. and restored to the monks on their reconstitution as regular canons by that sovereign at Waltham. For we read of it as having been held in the thirteenth century by one Ralph Lemoigne, on grand serjeantry, as purveyor to the royal kitchen. The present parish extends over nearly 2,500 acres, of which forty are under water; and at the census of 1881 the population, since largely increased,

was counted at 9,344 souls. It has long been famous for its Miller's Well; and for Green Street House,—seat of the Nevils, earls of Westmoreland, and lords Latimer. This mansion, standing by the Barking-road, is reputed to have been built by Henry VIII. for his queen, Anne Boleyne. The parish church, dedicated to St. Mary Magdalene, has some Norman and Early English features in the nave and tower, and in the chancel, respectively. The chancel presents the unusual form of a rounded apse. Herein is a monument to Edmund Nevil (died in 1647), heir male to Charles, the attainted Earl of Westmoreland. In the churchyard was buried (1725), and, as he himself desired, without inscription, Dr. Stukeley, the antiquary, rector of St. George the Martyr, Holborn. The living is in the gift of Brasenose, Oxford. The almshouses were founded in 1621, by Giles Bream; they take an equal share with the parish of Bottisham, Cambridgeshire, in his endowment of 102 acres at Braintree.

Plashet, in the western portion of the parish, by the southern confines of Epping Forest, is associated with the memory of Mrs. Elizabeth Fry, who came to reside here in 1808. On June 7, 1886, was laid, in her honour, by the Princess Louise, the foundation-stone of St. Stephen's Church, in Upton Park, its site forming part of the garden attached to Upton-lane House (since styled "The Cedars"), the residence of Mrs. Fry's brother, Mr. Samuel Gurney. Upton,—now known as West Ham,—Park, was sold for a public recreation-ground to the Corporation by Mr. John, grandson to Samuel, Gurney, at its estimated value of 25,000*l.*, whereof he and the Corporation contributed 10,000*l.* apiece, the balance being raised by local subscriptions. This park, which covers eighty acres, and had been originally laid out by Dr. Fothergill in the middle of last century, was opened on July 20, 1874. It is interesting to note that here, in 1847, was held one of the first "days in the country" for poor London children, when Samuel Gurney invited about three hundred children from Spitalfields. Within easy distance of West Ham Park are the sites, together with some few remains, of three once famous priories,—Barking; St. Leonard, Bromley; and Stratford Langthorne, at Abbey Mills. The last named, otherwise known as West Ham Abbey, had been founded by William de Montfitchet for Cistercian monks in the year 1135. Their abbot ranked as a lord of Parliament: at the Dissolution their income was computed at 573*l.* 15s. 6d. Touching the early history of St. Leonard's, we must refrain here from examining the diverse statements of such authorities as Dugdale, Leland, Stow, Speed, and Weever. Its ancient conventual chapel of St. Mary was adapted for use as the parish church, which in 1843 was supplanted by a new edifice, of brick, in the Norman style. No such controversies have arisen in connexion with the annals of that grand Benedictine abbey which, dedicated to the Virgin, was founded, *circa* A.D. 670, by Roothing-side, where had been a settlement of the East Englian Beorchingas. Æthelburga, sister to its founder Erkenwald, fourth bishop of London (and grandson of Offa, king of the East Angles), was installed as first abbess of a religious house which in wealth and honour had no superior in England. Five of her successors in office had been canonised ere the Conquest. The daughters and consorts of our earlier sovereigns gladly undertook its charge: kings and royal ladies sought retreat within its walls. The abbess of Barking ranked as a baroness *suo jure*: she took precedence of all her compeers. At the surrender on November 14, 1539, the revenues amounted (*teste* Speed) to nearly 1,700 marks, despite serious losses incurred by repeated expenditure in connexion with inundations from the Thames; and Dorothy Barley, last abbess, received a pension of 200 marks, 133*l.* 6s. 8d. The conventual buildings had been burnt and sacked by the Danes in 870. Standing within territory ceded by Ælfred to Godwin they remained desolate until the rebuilding by King Edgar, about ninety years afterwards. Henry VIII. leased the property here to Sir Thomas Dennye: Edmund Fynes, lord Clinton, took it from Edward VI. It then passed to Sir Richard Sackville, and again to the Crown, when James I. granted it to Augustine Steward. In 1747 it was bought by Joseph Keeling, and ultimately went to Sir Edward Hulse. Some excavations made last century by Mr. Lethieullier, lord of the manor, brought to light most of the ground plan, including the church, 170 ft. in length. About twelve years ago more remains were discovered, at the National Schools, of the Lady-chapel, together with two skeletons,—presumably of abbesses,—buried before the altar. The abbey buildings stood to the north of St. Margaret's Church.

THE LATE WILLIAM EDEN NESFIELD.

FEW men have exercised a more powerful influence over the rising generation of English architects than the late William Eden Nesfield, whose death, at the comparatively early age of fifty-three, we briefly alluded to in a "Note" in our last week's issue (p. 225). He was the eldest son of Mr. William Andrew Nesfield, one of the earliest members of the old Society of Painters in Water Colours, and the grandson of the late William Nesfield, rector of Brancepeth, in the county of Durham. William Nesfield the elder entered the army in 1809, and took part in the campaign in the North of Spain, until the fall of San Jean de Luz put an end to the war. He was afterwards stationed in Canada, where he acted as aide-de-camp to Sir Gordon Drummond, and was engaged in the siege of Fort Erie and the defence of Chippeway. He shortly afterwards retired from the army, and devoted himself to painting, in which he was successful, and was elected an Associate of the Society of Painters in Water Colours in 1823. In the following year he became a Member of the Society, and was one of its most constant contributors until the year 1850, when he retired, and from that time until a few years previous to his decease he was engaged in laying out ornamental grounds, terraces, &c., in which he enjoyed an extensive practice. He designed the Horticultural Gardens at South Kensington, and remodelled portions of Kew Gardens and of St. James's and Regent's Parks, and also laid out the gardens of several noblemen's seats in different parts of the country. He died in 1881, at the advanced age of eighty-eight. A drawing of Bamborough Castle, in the Ellison Gift Collection at South Kensington, gives a good idea of his style.

William Eden Nesfield, his son, was educated at Eton, and at an early age evinced a great aptitude for drawing. He was a pupil first of the late Mr. Burn, and afterwards of his uncle, the elder Salvin, and was for a short time in the *atelier* of Viollet-le-Duc, by whom he was greatly esteemed.

He entered the Royal Academy in the Architectural School, and, having gained the Academy Travelling Studentship, he travelled for some time in France and Italy in the years 1857-8, and visited Athens, Constantinople, and Salonica in company with Mr. James Donaldson, the youngest son of the late Professor Donaldson. On his return to England, in 1858, he soon afterwards commenced practice at Bedford-row, and began preparing the drawings for his "Specimens of Mediæval Architecture," chiefly selected from examples of the twelfth and thirteenth centuries. This work, which was dedicated to Lord Craven, and was published by Messrs. Day & Son, was completed in March, 1862; and although it had been to some extent discounted by the previous publication of a work of a similar character by Mr. R. Norman Shaw, was very successful, and was at once recognised as the production of an accomplished and original draughtsman, with singular powers of observation and expression, and lifted the author at once to the front rank of his profession. In the preface to this collection of drawings the author remarks:—"My endeavour has been to faithfully represent the subjects as I saw them, avoiding with few exceptions such as had been touched by restoration, a process which, as at present conducted in France, frequently tends to destroy the character of the old work." Mr. Nesfield's original intention was to reproduce his drawings with his own hand, but he found that the labour of drawing upon stone was too much for him in the presence of other engagements, and he was obliged reluctantly to relinquish the work into other hands, whose fidelity he abundantly acknowledged. It is to be regretted that he was not able to carry out his original purpose, as drawings executed by one man necessarily lose something of their freshness and character by being transferred to stone by another hand.

After practising for some short time on his own account, Mr. Nesfield entered into partnership with Mr. R. Norman Shaw, and removed to No. 31, Argyll-place, where the two carried on business for some years. On the offices in Argyll-street being required for another purpose, he removed to No. 19, Margaret-street, and afterwards to Waverley-gardens, St. John's Wood, to a house built by Mr. John O'Connor. He died at Brighton, in Buckingham-road, his health having been failing for some time past.

At the commencement of his career Nesfield had extreme Gothic proclivities, and, with a young man's enthusiasm, he fancied that there would be no difficulty in reproducing the beauties of the architecture of the twelfth and thirteenth centuries; but he soon discovered the want of adaptability of the style of these periods to modern requirements, and, with that catholicity of taste which is a true test of genius, he soon turned to other sources of inspiration. The French châteaux of the time of Francis I., the Tudor mansions in England, the debased examples of Gothic of the time of James I., the simple comfortable houses of the time of Wren, were all laid under contribution, and their most valuable features were reproduced in designs in which there were no traces of copyism, but in which the characteristics of different periods were assimilated without any sense of impropriety. One of the best examples of his ability is seen in Cloverley Hall, about three miles from Market Drayton, North Shropshire, the seat of Mr. J. Pemberton Heywood, the peculiarity of the design of which is that although founded on a French model, it is distinctly English in character, and could not be possibly mistaken for anything but what it is,—an English gentleman's country-house.

The *Athenæum* credits Mr. Nesfield with the authorship of several papers on architecture and archæology. If this be the case they must have been contributed anonymously, as he had a great dislike to publicity, and avoided what he called advertising or calling attention to himself in any way. He had, besides, an imperfect sympathy with conventional society, but was a most agreeable companion, and numbered some of the most eminent men in literature and art as his friends. Among his strongest characteristics were his singular uprightness and a sturdy independence in his bearing towards his clients. He could never be persuaded that he was the servant of an employer, and treated him in something of the same manner that Michelangelo treated Pope Julius,—as a friend and patron and nothing more. He was always quick to uphold the honour of his profession, "to keep his shield bright," as he expressed it, and for this if for nothing more those of his colleagues who survive him should hold his memory in grateful remembrance.

ANCIENT ENGRAVED GEMS.*

A SMALL piece of amethyst, emerald, jacinth, garnet, or sard is a thing beautiful in itself by reason of its pure depth of colour. Add to this intrinsic beauty the strange places and chance-ways in which the stones are found; let one of them be cut and polished; let a design be engraved upon it as clear in its conception and as firm in execution as the stone itself; let the gem so made be mounted in a simple ring for the finger and be worn by the owner with an inseparable sense of pride,—imagine this, and you have at once a combination of art, material, and sentiment such as has often set men's fancies to the spinning of strange stories. Or, if the serene blue of the sky needed a comparison, there was the "Dolce color d'oriental zapphiro" of Dante ("Purgatorio," i., 13); if a New Jerusalem was to be conceived in the heavens, no material was so suitable as precious stones. The serene unchangeableness of a fine gem always appealed to the imagination of Eastern peoples, familar as they were with stones of the rarest quality. It is, however, with the Greeks that we have to deal, and of them it may be said that in their early history at least they were content with such plain stones as the agate and carnelian; they preferred workmanship to material, thinking, apparently, that the more modest the material the better the work was likely to tell,—or, perhaps, merely making a virtue of necessity, as so often happened with them. Still, even the Greeks had one or two incidents about gems which,

* By Mr. A. S. Murray, Keeper of the Greek and Roman Antiquities in the British Museum. Being a Lecture recently delivered to the Students of the Royal Academy.

Enlarged Representations of Assyrian or Phœnician Engraved Gems in the British Museum.

though they are familiar enough, I must inflict upon you. The oldest of the kind relates to a ring which had been found by an ancestor of Gyges, a king of Lydia in Asia Minor, who lived early in the seventh century, B.C. This ring of Gyges had the property of making its wearer visible or invisible, according as he chose to turn it round on its swivel. With this property it was useful to him in ways that do not concern us, and therefore I will pass them by. What concerns us is that this same Gyges was the person who invented coined money. Now, the process of engraving a die for a coin is much the same as engraving a gem; and we may safely conclude that it was an engraved gem which had suggested to Gyges that most useful idea of coined money, if the oldest gems correspond closely with the oldest coins in artistic character, as, indeed, they do. A contemporary poet, Archilochus, speaks of the vast wealth of Gyges, and possibly Gyges had found out that a coin as well as a gem might make a man visible or invisible. A century or more after the time of Gyges we have, again in the same region of Asia Minor, the story of the ring of Polycrates, the tyrant of Samos (B.C. 560–522). Polycrates, as often happened, had become afraid of his own prosperity. He consulted his friend Amasis, a sort of Cromwell who then ruled over Egypt, as to what was best to be done. Amasis advised him to throw into the sea whatever object he valued most. Polycrates valued most the seal which he wore on his finger. It had been engraved for him by one of his subjects, the famous sculptor Theodorus, who combined with his other gifts a skill in gem-engraving, of which he was proud. It is said that he made a statue of himself holding an engraving tool in one hand and in the other an object which has often been described in books of useful information as a four-horse chariot carved so minutely that a fly could cover it with its wings, but which in reality was no other than a gem in the form of a beetle or scarab, with a chariot engraved on its flat surface, much as is shown by fig. 2 on the sheet of ink-photo illustrations.* I assume that the gem of Polycrates also was of this beetle form, and accordingly, when he cast it into the sea, it was not at all so very surprising that it should be afterwards found inside a fish. The fish, seeing it sinking in the water, would take it for a fly, or something of the kind. The sculptor Theodorus is known to have studied in Egypt, and doubtless it was from Egypt that he brought back what must have struck his fellow Greeks as a quaint design for a gem, viz., the form of a beetle or scarab. It would strike them because gem-engraving was at that time a favourite pursuit in his native town of Samos, if we may judge so much from the fact that Mnesarchus, the father of the philosopher Pythagoras, who must have lived about then, practised gem-engraving with more success in the way of fame than of substantial reward.

But I must go back a century at least, and notice the oldest class of gems. And first I would call attention to their peculiar shape. Among engraved gems other than those of Greece, the two principal shapes are the cylinder of Assyria and the beetle or scarab of Egypt. The Greeks, while adopting from these nations, especially from Assyria, the use of seals and the technical process of engraving, did not employ, except rarely, either of the two shapes just mentioned, the cylinder and the scarab. The oldest of their gems either take the form of a nearly circular bean (whence they are called lenticular gems), or the form of a gland or pebble such as was used for slinging (whence they are described as glandular). If we look for a motive which may have induced the Greeks to take these shapes rather than the cylinder or scarab, we may remember that among them pebbles or ψῆφοι (which means also stones set in rings) were employed to record votes at public trials, while beans were used for voting at the election of magistrates. There would thus be sufficient familiarity with both these shapes to recommend them for use as seals. An important consideration, also, was the substance on which the seal was to be impressed. A small piece of moist clay was the most natural and most accessible substance. If you take such a piece of clay and flatten it down to receive the seal, it will at once become nearly circular in form; and since a seal should cover as much as possible of the surface presented to it for the impression, the best thing to do is to make the seal also circular, or nearly so. This practical view of the matter has been taken by the engravers of the five seals shown above, marked A, B, C, D, and E, which come from Assyria, and belong to the seventh and sixth centuries B.C.* It is noticeable that the engraving of these is not of a pure Assyrian character, but exhibits a strong Western influence, possibly exercised through the medium of the Phœnicians, or those popular favourites the Hittites.

Greek gems of the lenticular class, being merely seals, did not usually aim at beauty or ornament. It was enough if they expressed by a symbol or a device the identity of their owner whenever that identity had to be established for the many purposes of trade and private life, where seals were employed previous to the general introduction of writing about the middle of the seventh century B.C. The designs on these lenticular gems are, with comparatively few exceptions, taken from the animal and vegetable kingdoms. Lions, goats, and bulls are the most prevalent; and it will be noticed that these animals are frequently contorted and combined in a manner which does not represent nature, but which was suitable for heraldic purposes when new seals, with new variations and combinations of the old devices, were in demand, and when it was necessary that the design should, as far as possible, cover the whole surface of the seal. Fanciful figures of winged

* These twelve illustrations, and the five given on this page, are reproduced, by Mr. Murray's kind permission, from some of the large-scale diagrams made for the purpose of the lecture.

* The approximate dates of these examples are:—A, 650 B.C.; B, C, and D, 600 B.C.; and E, 500 B.C.

horses, chimæras, and such like, appear to have owed a share at least of their origin to these combinations. I may mention one instance of what seems to be a chimæra, viz., a lion with a goat's head rising from its back, but which may, in fact, be only a heraldic combination of lion and goat. In the same way, the numerous figures of winged horses may be merely combinations of horse and bird for heraldic purposes, and not at all the creation of poetic fancy. We may give the poets credit for riding on their winged horse Pegasus, but we need not say that the poets created him. Illustrations of legend, such as would be implied if the winged horse on our gems were Pegasus, are very rare. A group of Hercules and Nereus is one of these few instances.

From the point of view that a seal may, equally with a coin, be a tender of honesty in a transaction, and from the fact that the Ethiopians used engraved stones as coins, while the Carthaginians are said to have employed for the same purpose an object enclosed in a small piece of leather and sealed up, it would be expected that the earliest Greek coins would bear a close resemblance to the gems which, it can hardly be doubted, had preceded them. The origin of Greek coinage is now believed to go no further back than the seventh century B.C., and to have been the invention of the Lydian king Gyges, as I have already said. Both in shape and design the earliest of these coins are very frequently like our lenticular gems. We may assume, then, that the production of these gems went on down to the seventh century, and possibly down to the sixth century B.C. How long it may have gone on before then we need not inquire. But I may note that Homer never mentions engraved gems in passages where, had he known of such things, he would have been certain to speak of them. The Roman writer Pliny had quoted the silence of Homer as evidence that gem-engraving had not been in practice in his day.

As regards the technical process by which these gems have been executed, we read in Herodotus (vii., 69) that among the Ethiopians in the army of Xerxes were some who had their arrows tipped, not with iron, but with a sharp stone with which they also engraved gems,—apparently those gems which they employed as coins, and to which reference has just been made. Many of the lenticular and glandular gems are of steatite, which is easily engraved with obsidian, a material which has been found, fashioned as knives and otherwise, in the oldest tombs in the Greek islands. In general, however, it will be seen that even on the steatite gems an instrument consisting of a minute metal disc with a sharp edge, and worked by a drill, had been employed to sink the deeper parts of the design. An instrument of this kind would answer to Pliny's *ferrum retusum* and his *fervor terebrarum* (xxxvii., 76). Such an instrument seems to have been known from the earliest time, and to have become necessary in the working of the harder stones, such as rock crystal, carnelian, jasper, and hæmatite; and the evidence of it is easily to be recognised on these gems by the numerous small cup-like sinkings, which, in the ruder specimens, are left much as they were at first made; while, in the finer specimens, they are finished off in keeping with the general design. This will be noticed most frequently in the heads, feet, and legs of animals. Larger discs were used where larger spaces had to be hollowed out, as, for instance, the fore and hind quarters of a bull. These sinkings were then connected by graving tools fitted with diamond points and worked by a drill with a forward and backward movement. These were the *crustæ* of diamonds and the fragments of *ostracitis*, of which Pliny speaks (xxxvii., 15 and 65). For the harder sorts of stones, a powder, *smyris*, apparently much the same as the emery powder now in use, was mixed with oil and employed to charge the tools. It seems to be this that Pliny (xxxvii., 32) refers to as *naxium*.

It has already been remarked that gems engraved in the form of beetles or scarabs had their origin in Egypt. Thence the scarab found its way into Greece and Etruria, partly through the commerce of the Phœnicians, and partly under the influence of Greek residents in Egypt during the sixth century B.C., or nearly so. Gems so peculiar in shape and in the designs engraved on them appear to have had no permanent attraction for the Greeks, if we may judge from the scarcity of specimens as yet found on Greek soil. The Etruscans, on the other hand, may be said to have had a passion for gems of this form, so large is the number of them in public collections, not to speak of private cabinets. At the same time, it is to be remembered that whatever their success may have been in gem-engraving, the Etruscans remained always indebted to the Greeks for their subjects, for the proportions of the human figure which they employed, and for their manner of rendering the figure. The subjects, as has been said, are taken from the legends of Greek heroes,—very rarely from myths of the gods. (Pythagoras, the philosopher, who was a contemporary of these gem-engravers, and himself the son of a gem-engraver, forbade his followers to wear the image of a god in their rings. But whether or not there was any general feeling of reverence in the matter, the fact remains that figures of deities are very scarce in the scarabs.) The proportions of the figure show a short body with long legs, precisely such as may be seen in the sculptures from Ægina in Munich, the Harpy tomb in the British Museum, or the metopes of Selinus in Palermo (see plate of ink-photo illustrations, fig. 7, which is a representation of a Greek warrior, and fig. 8, a satyr bending over a wine vase, and thus covering as much as possible of the surface of the gem). The costume is equally Greek of the date of these sculptures (see fig. 4, a personification of Fate, and fig. 5, Ajax carrying the body of Patroclus). The figures are represented in profile, and constantly engaged in action. The workmanship is laboriously minute, the contours of a design being cut sharply down, and the relief, as seen in an impression, kept flat within the contours. All these characteristics will be found combined in Greek sculpture of the end of the sixth century B.C. and the early part of the fifth. This, then, is the date to which the beginning of scarab engraving in Etruria may be assigned. Why its beginning was marked by so much excellence of detail is explained by the circumstance that just then Greek sculpture had attained perfection in the minuteness and refinement of archaism. It will be noticed in following the history of the scarabs that there is a gradual tendency to relax minuteness of detail in the human figure; to make up for this by indicating forcibly the bones as seen at the knees, elbows, ankles, and other prominent points in the anatomy; to prefer male figures as nude as possible, in contrast to the earlier stage, where draped female figures gave frequent scope for finish of detail; to become content with a more or less general indication of the figure within its contours; and finally, to reverse the proportions so as to show a comparatively long *torso* with short legs, such as is believed to have been a characteristic of the sculptor Polykleitos. The changes here indicated may be supposed to have taken place within the period of a century. Fig. 6 in the sheet of illustrations is an example of the later canon of proportions associated with the name of Polykleitos. It represents Ixion bound to the wheel.

The best and most carefully-engraved scarabs have been found, so far as is known from the comparatively few records that have been kept, in tombs, accompanied by vases of the black figure and early red figure styles,—that is to say, vases ranging from the dates about B.C. 500 to B.C. 440. Where scarabs have been found with vases of the later and free red-figure style, it is noticeable that they are rude in execution, and may be as late as the beginning of the third century B.C. Yet these rude and unquestionably late scarabs retain in general the same class of subjects: figures of heroes, centaurs, and such like, which the early engravers had made familiar.

I have said that the Greeks had little taste for the scarab form of gem, and that is just what would be expected of them. In the first place, the constancy to one particular form which satisfied the Etruscan engravers was itself a species of tyranny. Then the shape of a beetle could not well be enlarged or varied in size as an artist might wish. There was a realism about it which demanded actual size in the imitations of it. The beetle had no sanctity in the eyes of the Greeks, as it had among the Egyptians. There were, in fact, plenty of reasons for the rejection by the Greeks of the beetle or scarab form; but perhaps the chief reason was the very confined area which it presented for an engraved design. That suited the Etruscans very well, with their love of minute, careful workmanship. You can see the difference between them and the Greeks in this matter of workmanship if you compare their goldsmiths' work. The Etruscan goldsmith produces a mæander by means of innumerable small globules of gold soldered down with infinite pains so as to form the pattern. The Greek takes a fine thread of gold and produces the pattern in a moment. I do not say that the Greeks were not also minutely painstaking at an early stage of their course, but they found afterwards that it is a better principle to spare the labour of your hands than the labour of your brains. As regards gem-engraving, they certainly demanded more elbow-room than the Etruscans or Egyptians, and accordingly, instead of the scarab form, they chose what is now commonly called the scaraboid, *i.e.*, a gem which presents an oblong surface for engraving, much like an Egyptian cartouche, or the base of a large scarab, but which is quite plain at the back, with no trace of the beetle left. We stick pins through our beetles vertically: the ancients stuck them horizontally, and thus obtained a swivel on which the creature,—I am speaking of stone beetles,—could be turned round without injury to its appearance. In the scaraboids also this swivel was retained.

As examples of engraving on scaraboids, such as it was practised from 500 to 450 B.C., I would refer you first to figs. 1 and 3 on the sheet of illustrations. The former represents a bull, and is executed with much of the vivid appreciation of hard, bony structure in animals which was often characteristic of early Greek art. Fig. 3, cut in rock crystal, represents a lion attacking a deer. Though still archaic in style, the design is finely composed, so as to bring out the strength and ferocity of the lion in contrast with the timid quivering creature of a deer which falls his victim. There is throughout a careful study of life combined with observance of the flatness of relief necessary in a seal. Next, there is a female head (fig. 10), bearing the name of Eos, a personification of the Dawn. Here, also, there is some archaism left, as, for instance, in the eye being given in side-face instead of in profile, and in the backward slope of the profile. Yet this head is massive in all its parts, and may be compared in this respect with the bronze head of the Acropolis, of which I spoke in my last lecture,* comparing it with the heads of the statues at Olympia for largeness of manner accompanied by a certain negligence of detail.

But the finest gem of this kind is a burnt carnelian in the British Museum,—I am confining myself all along to gems in our own collection,—shown by fig. 9, representing a youth seated on a rock and playing a lyre. It also is a little archaic in some ways, but altogether has in it a largeness of style which makes one think of this figure as a slightly older type of those young gods seated in the east frieze of the Parthenon; and if our gem is worthy of being associated with those seated figures of the Parthenon frieze, then surely it is a treasure for us to possess. It is a proof that the gem-engraver may at times have been an artist of perfect attainments. In our gem the structure of the body of the youth, the treatment of the drapery round his legs, the manner in which the perspective of the figure is adapted to the necessary lowness of relief, are all points that may afford comparison with the Parthenon frieze; nor less so is the serene composure with which the youth bends over his instrument, enabling us at once to interpret the music of his lyre:

> Heard melodies are sweet, but those unheard
> Are sweeter.

Who, then, is this youth, seated at his lyre? There is no indication of Apollo about him. The alternative would seem to be some motive of ordinary life which the artist has idealised. But this raises a question which we may stop for a moment to consider. You are familiar with the statue of an athlete in the act of throwing a disc. The statue is usually described as a copy from a work by Myron. We are accustomed to speak of it, as some late ancient writers have taught us to do, as merely the statue of an athlete, a discobolus; and then we proceed to argue that by the time of Myron,—he was a contemporary of the engraver of our gem,—sculptors had begun to find attractive motives and opportunities of observation in the games and exercises of athletes going on before their eyes. No doubt the statue in question had

* "Archaic Sculpture recently found on the Acropolis of Athens." (See *Builder* for Feb. 25 last, p. 135.)

been carefully studied from the life; and if this is so, why not call it simply a discobolus, as we have been wont to do? But, in the first place, I question very much whether it had ever occurred to an artist in those early days to propose to himself a subject taken direct from ordinary life, unless for the purpose of humour or perhaps occasionally for portraiture. In the second place, we have in the Museum an engraved gem on which we see a discobolus in precisely Myron's attitude, and this gem is inscribed with the name of Hyacinthos. From this name we learn that the disc-thrower on the gem, at least, is not an actual athlete, but the legendary hero Hyacinthos, who was killed in playing at disc-throwing with Apollo, and from whose blood sprang the flower hyacinth. There cannot, I think, be much doubt that the true name of Myron's statue also was Hyacinthos. The mere matter of a name may be of no moment; but by recognising this as the right name we are able to perceive the manner in which Myron's mind worked. With his habit of observing nature, he had been caught with the beauty of the attitude of the disc-thrower at the instant when he is going to hurl forth the disc. He next looked round among the known legends of heroes for a subject which would allow him to use this attractive motive. Or, if you like, you may suppose him to have been first captivated by the legend of Hyacinthos, and to have next gone to watch athletes exercising. In either case, the combination of legend and reality in his mind would compel him to idealise the form of his athlete, and thus produce the statue with which we are familiar in ancient copies. In doing so he would have this advantage also, that the educated taste of the time would at once recognise the legendary hero, whereas the statue of a mere athlete could only be locally recognisable, and would be regarded generally as more or less of an impertinence to the public taste. I do not infer that this argument would necessarily apply to our gem of a youth playing on the lyre, because the gem was not made to appeal to the public taste; but still, it is possible that the youth was a person known to ancient legend.

To persons who cared chiefly for the design engraved on a gem, the scaraboid was a waste of material, since the same effect could be produced on a thin slice of stone, which, again, could be mounted on a massive ring more sumptuously than the scaraboid, with its necessarily plain hoop and swivel. The desire of saving expense, and yet to combine a good design with some show, is to be seen also in the scaraboids made of glass paste, *σφραγῖδες ὑάλιναι*. These glass scaraboids seem to have been worn as the central ornament of a bracelet, or as the pendant of a necklace. In some cases scaraboids appear to have been actually cut down for this purpose. But it is doubtful whether most of the gems now conveniently called cut scaraboids or cut scarabs, owing chiefly to the cable border round them, and to a certain affectation of archaism, are not simply late imitations.

From the fourth century B.C. onwards, the form of gem most generally in use was a thin oval slice of stone, having a sunk design on its face (*intaglio*), and set in a ring to be worn on the finger. Of the stones thus employed the most frequent is the sard, varying from a fine golden translucency to a deep blood colour. Amethyst, beryl, jacinth, garnet, and plasma, are more or less rare. Such stones as the onyx, sardonyx, nicolo, agate, chalcedony, and jasper are not uncommon among Græco-Roman gems, the sardonyx lending itself admirably to designs engraved in relief (*cameo*). From what is known otherwise, it would reasonably be expected that gem-engraving, like the other arts of Greece, had reached perfection at the beginning of the fourth century, B.C. Apart, however, from a certain number of the scaraboids already mentioned, and a small number of gold rings, only a few examples of engraving have survived from this period. In these gems the design is extremely shallow; the lines are fine and a little scratchy, like those of a delicate pen-and-ink sketch. Frequently the lines do not reach quite home to the points where they should begin or end, and this circumstance also lends to the engraving something of the character of an extremely delicate sketch. These, however, are points which cannot well be seen without a magnifying-glass. To the eye the engraving appears to be executed with all desirable precision. The design itself is conceived with singular simplicity. For example, the four dancing figures on an amethyst fall into two groups, between which, no doubt, there is an easily-observed difference of movement; but between the two figures in each group there is as little difference as between the six Caryatids of the Erechtheum or the hydrophori on the south frieze of the Parthenon. That is to say, there is no marked or striking difference; and yet an attentive observation, when once the simple ideal beauty of the figures has been perceived, will reveal numerous distinctions in detail. For these reasons this gem may be placed about B.C. 400.

We may place a little later the fine sard on which is engraved an ecstatic mænad (shown in fig. 12 of the sheet of illustrations). This gem has been broken, and the lower parts of the legs badly restored in gold. But for the rest the engraving is kept extremely shallow, the details of the figure being thought out with amazing delicacy. It will be seen that with all the refinement of beauty pervading this gem, the head is disproportionately large, a circumstance which suggests that the gem is older than the frieze of the Mausoleum, about 352 B.C., by which time such errors of proportion had ceased in all good work. Or, again, we may take the gem shown in fig. 11, a fine sard on which is figured a lady seated, reading apparently a song, if we may judge as much from the lyre beside her. It seems to have been a love-song, from the fact that the word *Eros* has been scratched in on the cippus below her lyre. In any case the engraving is again very shallow, and very beautifully studied with a view to simplicity and purity of sentiment.

For further examples of the engravings of this period, we may refer to the collection of gold rings; and here it may be conjectured that, owing to the intrinsic value of objects of this description, the small number of them now existing may not represent the number actually found in recent years. An *intaglio* engraved on gold could have no translucency; and should the design embrace many lines, such as are necessary to indicate draped figures, much of its effect would be lost unless the engraving were carried out with elaborate minuteness. An alternative, when drapery with fine or minute lines was indispensable, was to represent the figure in slightly embossed relief. These embossed designs lead to the question of engraving in relief (*cameo*). Even as early as the seventh or the beginning of the sixth century B.C., this principle of engraving was recognised in the decoration of certain shells (*tridacna squamosa*) and ostrich-eggs by Phœnician or Greek workmen resident in the Delta of Egypt. Still, the *cameo*, in its general signification, does not appear to have become a permanent and favourite type of gem till the fourth, or more probably the third, century B.C., when the introduction of stones with variously-coloured layers, such as the sardonyx, onyx, and nicolo, showed what effect could be produced by a design cut in relief in those materials, and when the use of rings as seals came to be superseded by the larger use of them as personal ornaments. Pliny states that Scipio Africanus was the first Roman who had a gem cut in sardonyx, and that from his time this gem came much into favour. Apparently the cameo engraved in onyx or sardonyx, and serving merely as an ornament, had been preceded by cameos cast in glass paste and coloured to imitate precious stones, as also by cameos impressed in terra cotta and then gilt to imitate gold medallions. The process of making the pastes seems to have been to first model the design carefully in clay, to make a mould from the clay, and to cast the paste in this mould. The most productive period of this industry seems to have been the second and first centuries B.C., though it flourished also before and after that time. This period coincides with the somewhat analogous branch of art represented by a series of small and often circular reliefs moulded on *aski* and certain other vases of black ware, which, from the inscriptions on them and from the character of the art, have been assigned to the middle of the second century B.C. The inscriptions here referred to are in Latin, and they show that Roman workmen at the date in question had taken in hand the making of these vases, confining themselves, however, with rare exceptions, to the reproduction of Greek subjects and Greek designs already familiar in art.

What with cameos, then, and pastes, neither of which were suitable for sealing, Greek gem-engraving had, by the fourth and third centuries B.C., reached a stage in which its aim and occupation must have largely been to minister to luxurious tastes. At the same time, there was still a fairly-large demand for actual seals. We must remember that a Greek did not go about with a bunch of keys in his pocket; in fact, he had no pocket to put them in. If he wanted to keep a thing safe he sealed it up, and trusted to the punishment which befel those who broke a seal. The habit seems to have survived in modern Greece, for I was once much astonished at Olympia to be told that the Museum was about to be "sealed up"! In ancient times the symbol of sealing was employed in the religious mysteries, and passed down from them into the Christian church. Very probably it was from some knowledge of this that our early English bishops, at a time when Classical art was unknown in this country, so frequently had genuine ancient gems mounted in their seals, as we see from the many impressions of them that are still attached to deeds of lands and such like made by these bishops. Generally these gems are commonplace enough in point of engraving; but they show how, even in very dark ages, there was observed to be a certain distinction in an ancient engraved gem.

I suppose it is a maxim that when there is utility in a thing, that thing has many chances of being done well. In the matter of engraved gems, it was useful to be possessed of one or more of them. There were many reasons why it was an additional advantage to have engraved on your gem the portrait of some distinguished leader or patron, or person otherwise admired. The Emperor Augustus had a seal with the portrait of Alexander the Great on it. We have a portrait of the philosopher Aristippus, and must suppose that it had been worn by some follower or believer in his system of philosophy; so also with our portraits of Socrates, Plato, and others. But Alexander himself was not the person to acknowledge any leader or patron. He required a portrait of *himself* to seal with, and so set an example which ambitious men in after times were ready enough to follow, as we know from many interesting specimens of portraiture on gems. Alexander took care to have his portrait well engraved, and, finding in Pyrgoteles an artist with whose skill he was satisfied, he issued a command that no one but Pyrgoteles was to be allowed to engrave his portrait. In this way Alexander gave a fresh impetus to gem engraving, not only by the introduction of portraiture, but also by his manner of singling-out and honouring a particular artist. From his time onward two things became more and more common,—good portraits, and the occurrence of engravers' names on gems. As regards existing portraits of Alexander, we have a small gem deserving of notice for the clearness and vivacity with which the general likeness is rendered. Compared with the marble head in the British Museum, which is admittedly the best known portrait of Alexander, this gem is doubtless much at fault in the matter of style and in subtle indications of character. Possibly these defects will be best explained by taking the gem to be a work of the time of Augustus, who is known to have used a portrait of Alexander as a seal, and who may be assumed to have had his seal made to resemble as closely as possible an original by Pyrgoteles. . . . After Pyrgoteles, Pliny (Nat. Hist., xxxvii., 1, 8) names Apollonides and Kronios and Dioskorides as gem-engravers,—the last-mentioned having engraved the portrait of Augustus with which subsequent emperors sealed. It may be taken from the natural connexion of these words, first, that Apollonides and Kronios, like the others, engraved portraits; and, secondly, that they lived at a time intermediate between Alexander and Augustus, possibly in the times of the Diadochi, when portraiture was in high favour, and when precious stones were much valued. Both these names have been found on gems, but in no case without reasons for suspecting their antiquity. Equally, there are gems which claim to be portraits of Ptolemaic princes or princesses, but in general there prevails uncertainty as to their being contemporary works. Again, among the many gems bearing the name of Dioskorides, it is easy to reject some as modern. Others, again, may be distinguished as modern so far as the inscription of his name is concerned, the antiquity of the gem itself being left in abeyance or even defended. . . . . In general, the name of an engraver on a portrait gem has the effect of awakening some degree

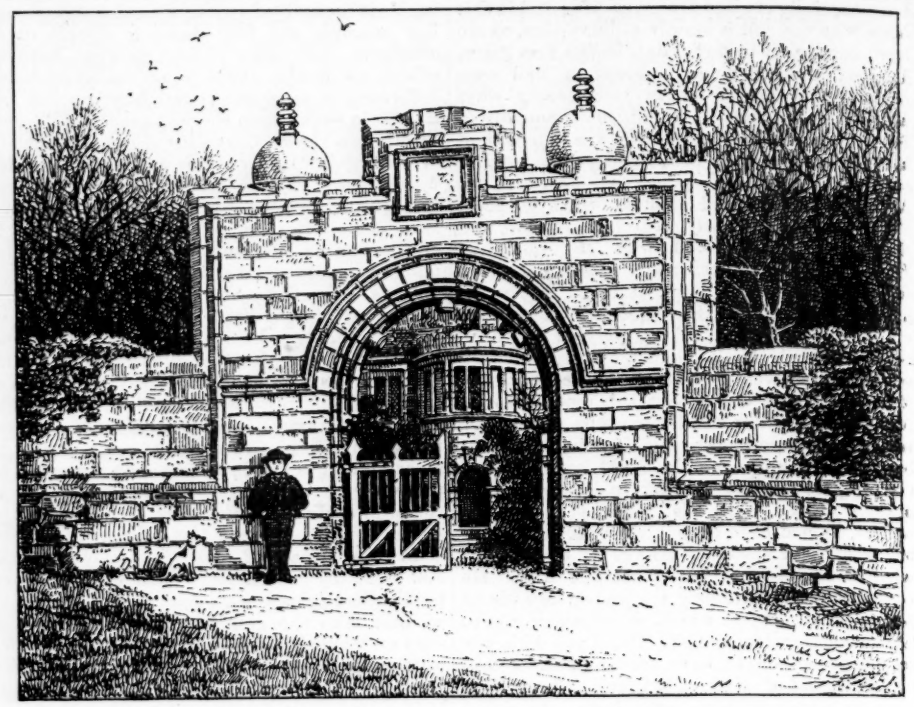
of suspicion, the more so if it is a name known in ancient literature, like that of Dioskorides,—first, because on the ancient portraits which now enjoy the greatest reputation there are no such signatures; and, secondly, because in the Cinque-cento period the much-practised art of portraiture on medals may well have influenced the production of gems professing to be antique and bearing the names of artists known from ancient literature. The most ambitious of the ancient portraits now known are to be found among the cameos, such as the Augustus, in the British Museum, or the Claudius, at Windsor; and yet, though there exist not a few cameos of even greater ambition and skill than these, on none of them is a signature to be found. On this view, the inscription on the beautiful fragment of a cameo, in the British Museum, with a head attributed to Germanicus, and bearing the name ΕΠΙΤΥΓΧΑΝΟΥ, would be a modern addition. Before, however, applying this rule rigidly to cameos, it would be well to bear in mind that a large number of late Roman gems have no other ornament than inscriptions wishing good luck, or such like, and that this later taste for inscribed gems may have led in antiquity as well as in more recent times to the addition of names,—whether those of engravers or owners,—to gems which had been handed down among ancient collectors. The same consideration should be extended to intaglios, except, perhaps, where they bear famous names like those of Pheidias or Praxiteles, in which case it may be concluded that the work is either that of a Roman slave named with such a name, or of a modern engraver. No distinction between the engraver and the inscription holds good there as it may in other cases. The gems engraved with mottoes, though obviously of a late date, may yet be regarded as in some sense the successors of the old medicinal ring, familiar in the time of Aristophanes, — the *δακτύλιος φαρμακίτης*,—which druggists were wont to supply in the place of drugs at apparently a very cheap rate; or of those magical rings which could, but did not, reveal the future, or which might render the wearer visible and invisible by turns, like the ring of the ancestor of Gyges. . . . .

The habit of collecting engraved gems for the sake of their beauty is known to have been occasionally indulged in by private individuals in ancient Greece, particularly among musicians. It is conceivable that a flute-player who collected gems may have been influenced chiefly by a vain desire to increase the glitter of his fingers as they moved on the flute; but it is a more probable and more charitable view to assume that he had been conscious of an artistic affinity between his own art and that of the gem-engraver. Still, no public collection of gems appears to have been formed in Greece with the view of educating the general taste. The nearest approach to anything of the kind was to be seen among the treasures dedicated in temples, such, for example, as in the Parthenon at Athens. The treasures of the Parthenon have perished, but several inventories of them exist, which, dating from about B.C. 400, contain numerous entries of gold and silver rings set with seals.

Among the Romans, in the last century B.C., gem collecting became a passion, the impulse towards it having been given by the cabinet of Mithridates, which Pompey carried off to Rome and placed among the treasures of the Capitol. Following this example, Julius Cæsar presented six cabinets, or dactyliothecæ, in the Temple of Venus Genetrix, and Marcellus one in the Temple of Apollo Palatinus. Subsequently the demand for works of this class so far exceeded the natural supply that no species of fraud was, according to Pliny (Nat. Hist., xxxvii., 197), more lucrative than the manufacture of false gems in the shape of glass pastes and other materials. It may be taken that this industry was chiefly occupied with the imitation of those subjects and designs which had become familiar and admired on the genuine ancient gems which it was the desire of the collector to obtain. To this source may be traced, in a large measure, the constant recurrence of the same design and the same manner of treatment which strikes the student who has examined a number of public or private collections. Obviously gems thus produced must present considerable difficulty to the student. They have not only to be distinguished from the older gems which they sought to imitate, but also from comparatively modern gems made expressly and with much skill to imitate these ancient imitations.

With the Renaissance the passion for collecting ancient gems revived, and has remained more or less in force ever since. Cabinets formed by wealthy collectors were from time to time broken up and dispersed, ever helping to form new cabinets. A field was thus opened again for the imitator; but it was not till towards the end of last century that his occupation assumed large dimensions, and accordingly, gems which can still be traced back to cabinets formed previously to that date are held to be presumably free from any charge of imitation.

I have thus endeavoured to give you a hurried sketch of a wide subject. It is not a subject to which in your usual studies you are expected to give much attention, so far as concerns a practical application of those studies. Gem-engraving is a nearly-forgotten art, and may never be revived again in our changed conditions of life. But I am sure that you will be none the worse for it by bestowing some leisure on these the most unobtrusive of our ancient works of art.*



Gateway, Old Hall, Bidston, Cheshire.—Drawn by Mr. Francis U. Holme.

BIDSTON HALL.

Bidston Hall, Cheshire, about three miles from Birkenhead, stands in a commanding situation, on a rock of yellow freestone, of which material it is built. The Hall was erected by William, sixth Earl of Derby, soon after he succeeded to the estates of his brother Ferdinando (who is said to have fallen a victim to witchcraft). This William, when firmly seated in his possession, surrendered the cares of property to his son James, Lord Strange, and retired for the summer to Bidston, which, say the old chronicles, "he affected very much," and for the winters to Chester, in which city he died, 1642, being then Lord Lieutenant and Chamberlain of the County.

At Bidston Hall resided Charles, eighth Earl of Derby, during the Commonwealth period. He was then in comparatively pecuniary distress, resulting from the part his father had taken against the Parliamentary forces. Shortly after the Restoration the Bidston Estate was sold, and in some intermediary purchase, it is said, was won and lost at cards by the ace of clubs. About the end of Charles II.'s reign, Bidston Warren was purchased by Sir Robert Vynor, Lord Mayor of London.

Bidston Hall retains all its ancient features. The front approach is through a square court, with a handsome gateway (the subject of our illustration), having a singular arch, highly ornamented with the cognisances of the Derby family, now much defaced.

* We are glad to be able to mention that a "Catalogue of Engraved Gems, Greek, Etruscan, and Roman, in the British Museum," is now in the press, and will be issued shortly. It has been prepared under the superintendence of Mr. Murray, and will have ten photographic plates, showing many of the more noteworthy of the gems in their actual size.

Illustrations.

ANCIENT ENGRAVED GEMS IN THE BRITISH MUSEUM.

FOR a description of the twelve engraved gems which are figured to an enlarged scale on one of our double-page ink-photo's this week, see report of Mr. A. S. Murray's interesting lecture at the Royal Academy (p. 244).

COMPETITION DESIGN FOR CARLISLE MARKETS.

The two drawings which we publish this week represent the entrance and the interior view of a design submitted in competition for the new Carlisle Markets by Mr. G. D. Oliver, of Carlisle, and which obtained the second premium of fifty guineas in the competition.

The drawing of the interior was in the Royal Academy Exhibition of last year.

TWO OLD CHESHIRE CHURCHES.

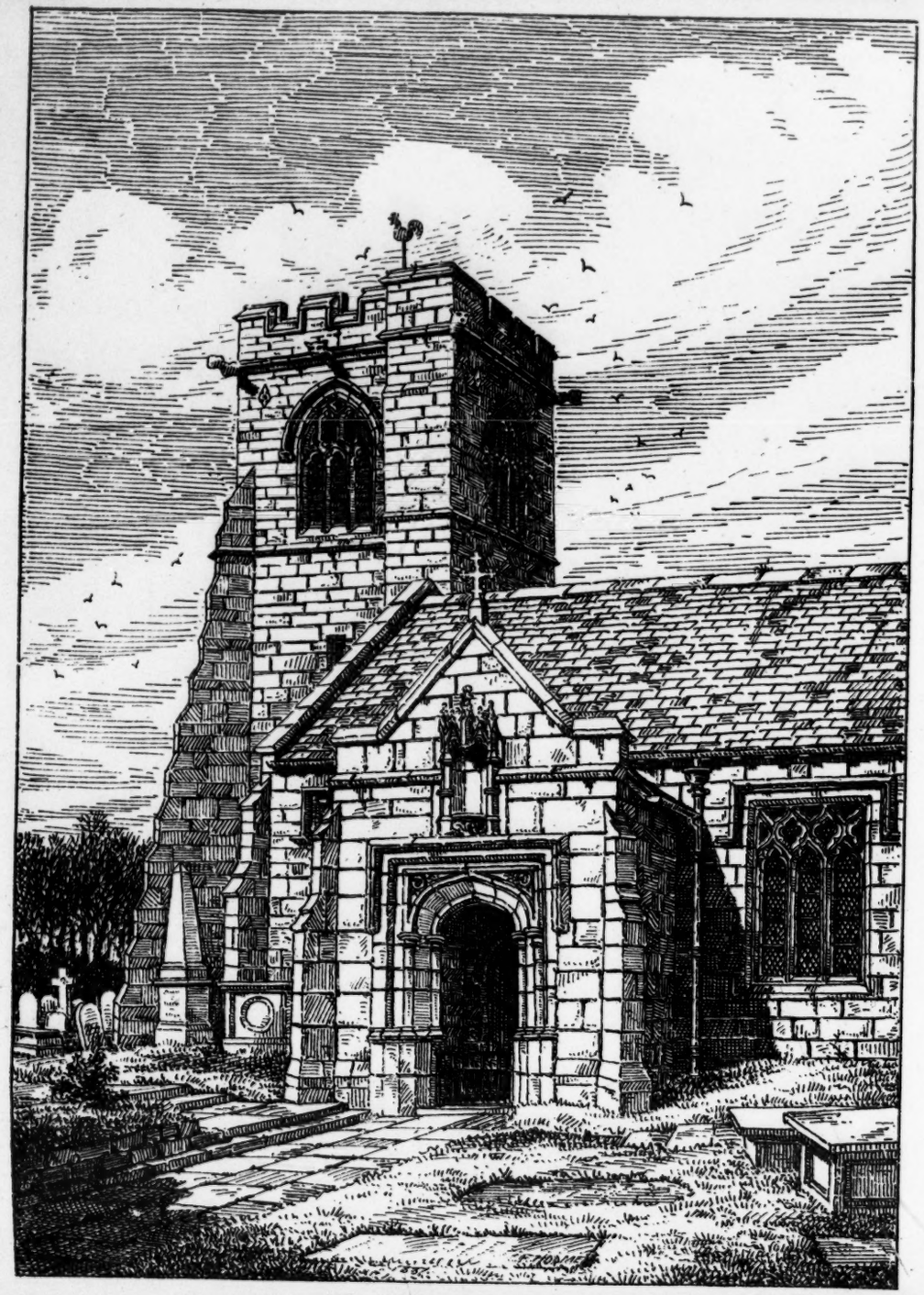
These two illustrations, from drawings by Mr. Francis U. Holme, of Liverpool, give a good idea of the style of simple church towers of Late Gothic date which are found in the part of Cheshire which lies nearest to Birkenhead and to the estuaries of the Dee and Mersey. There is nothing striking about these churches, but they have an interesting local character of their own. Bidston Church stands on the slope of Bidston Hill, looking over the flat plain towards the sea coast between the Dee and the Mersey. Woodchurch stands on high ground also, more in the direction of the Dee, the large buttress shown in the sketch giving it a marked character from a distance.

On this page we print some particulars and a sketch of the Gateway of old Bidston Hall, also by Mr. Holme.

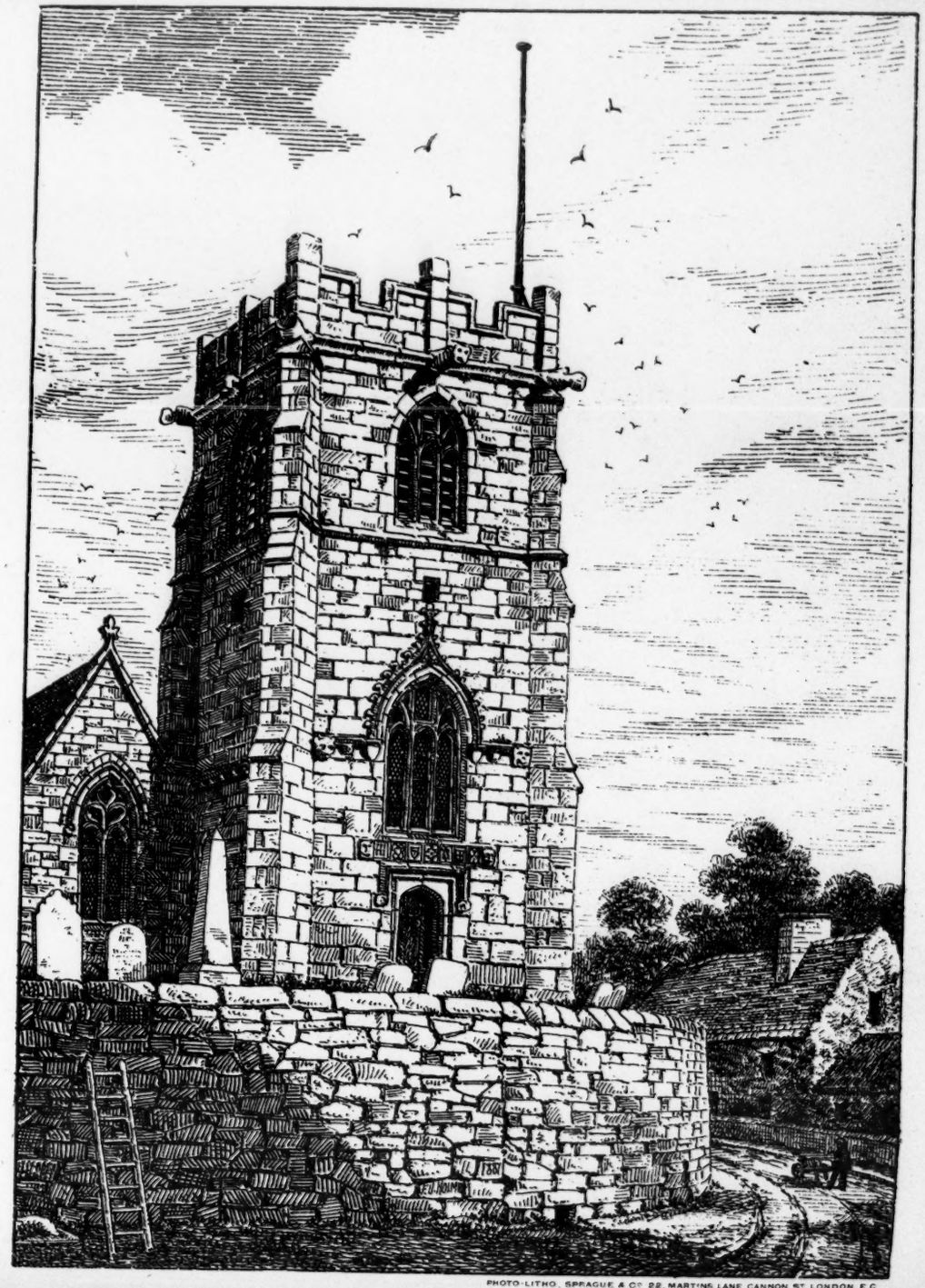
OLD OVERMANTEL, NOTTINGHAM.

This illustration is reproduced from one of the drawings made by Mr. Arthur Marshall for his work on Antique Furniture and Woodwork, some remarks on which will be found in another column.

The Late Mr. George Godwin's Effects. The late Mr. Godwin's collection of pictures is to be sold at Christie's on Wednesday next, April 11; and his books on Wednesday, the 18th inst., at the house, 6, Cromwell-place, by Messrs. Rogers, Chapman, & Thomas.



WOODCHURCH.



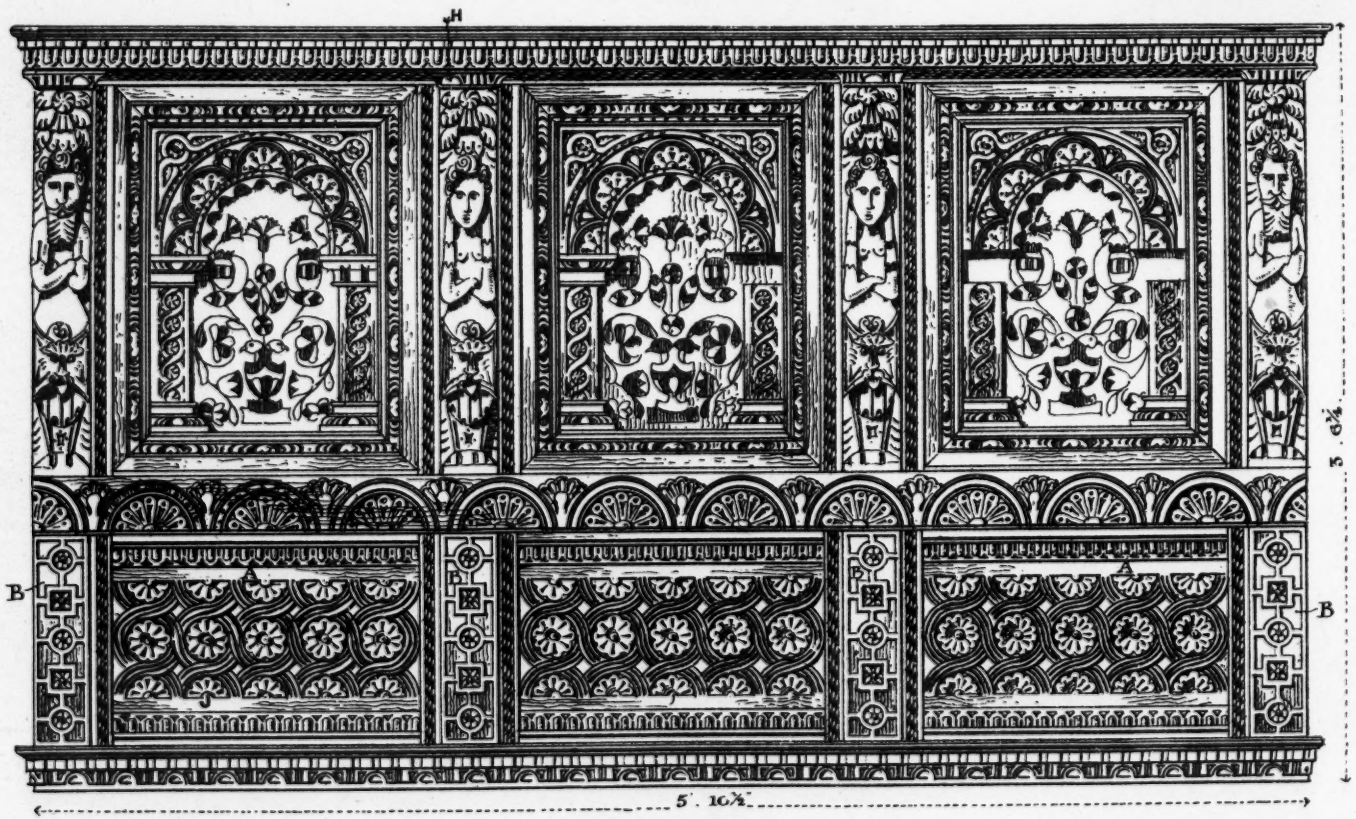
BIDSTON

TWO OLD CHESHIRE CHURCHES.—Drawn by Mr. Francis U. Holme.

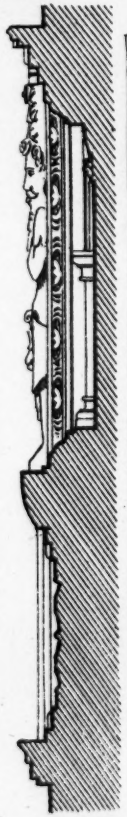
PHOTO-LITHO. SPRAGUE & Co 22, MARTINS LANE CANNON ST. LONDON, E.C

TWO OLD CHESHIRE CHURCHES.—Drawn by Mr. Francis U. Holme.

BIDSTON

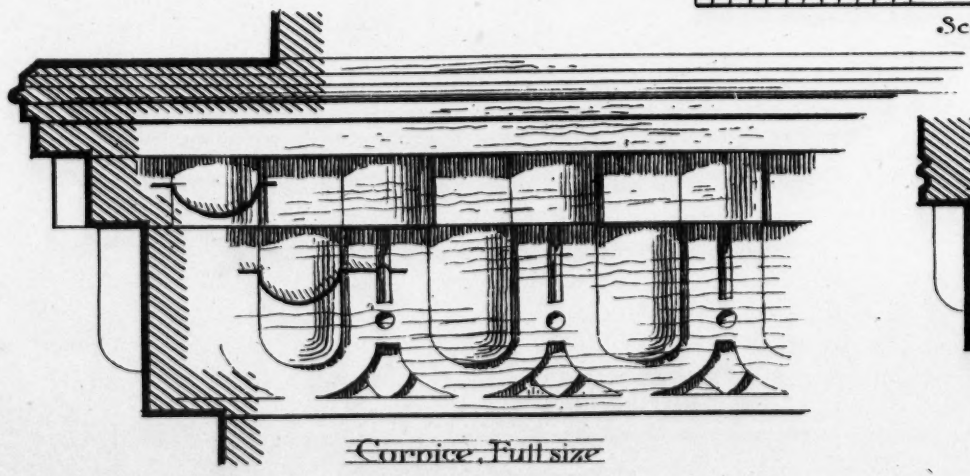


Elevation.



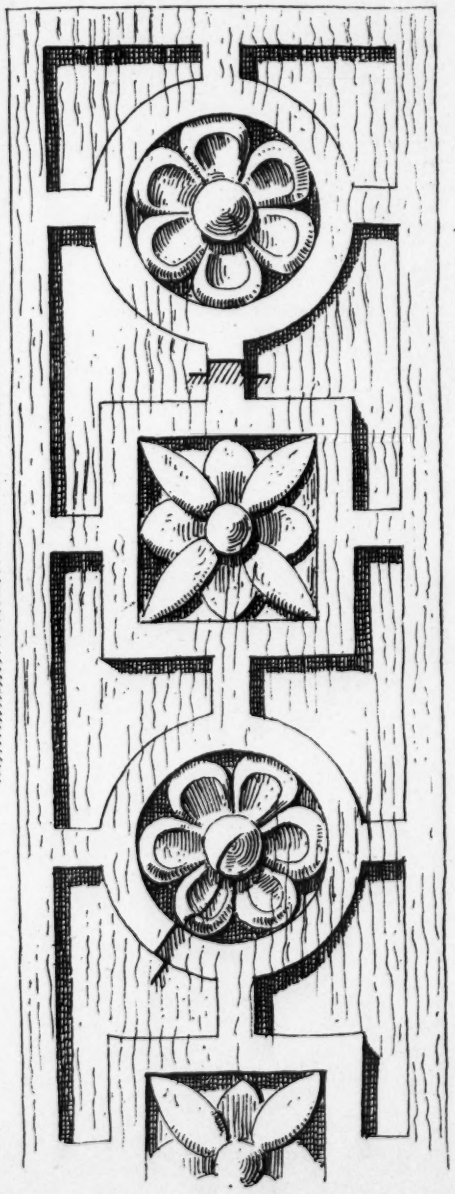
Section

Scale of feet



Cornice, Full size

Moulding at A Full size.

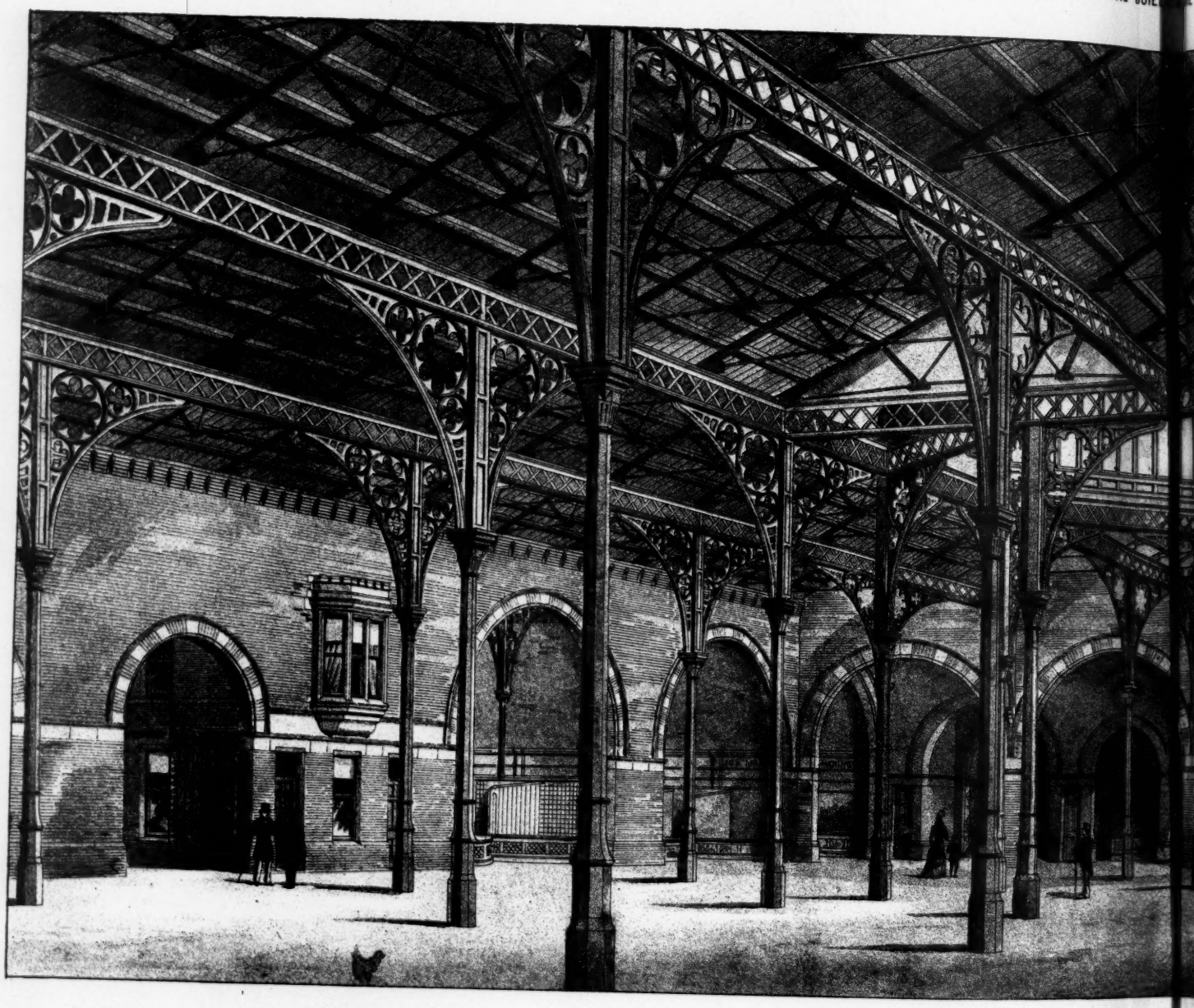


Carving at B. Full size.

A.M.

PHOTO-LITHO. SPRAGUE & Co 22, MARTINS LANE, CANNON ST, LONDON, E.C

OLD OVER-MANTEL AT NOTTINGHAM.—Measured and Drawn by Mr. Arthur Marshall, A.R.I.B.A.



COMPETITIVE DESIGN FOR CARLISLE MARKET.—

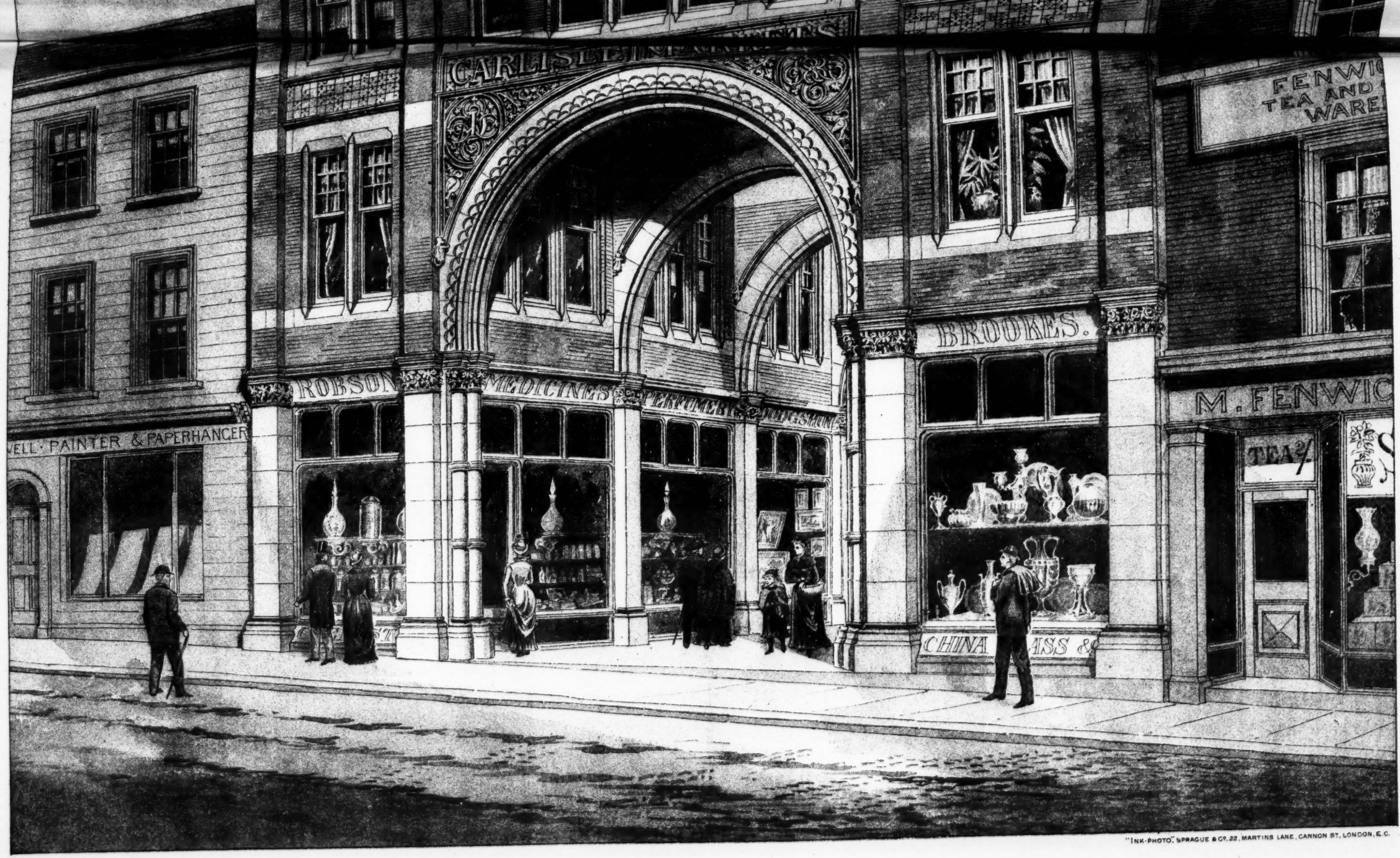
INTERIOR

"INK-PHOTO," SPRAGUE & Co., 22, MARTINS LANE, CANNON ST., LONDON, E.C.

MARKET.—Mr. George Dale Oliver, A.R.I.B.A., Architect.

INTERIOR.

FEAR NOT



COMPETITIVE DESIGN FOR CARLISLE MARKETS.—Mr. George Dale Oliver, A.R.I.B.A., Architect.

PRINCIPAL ENTRANCE.

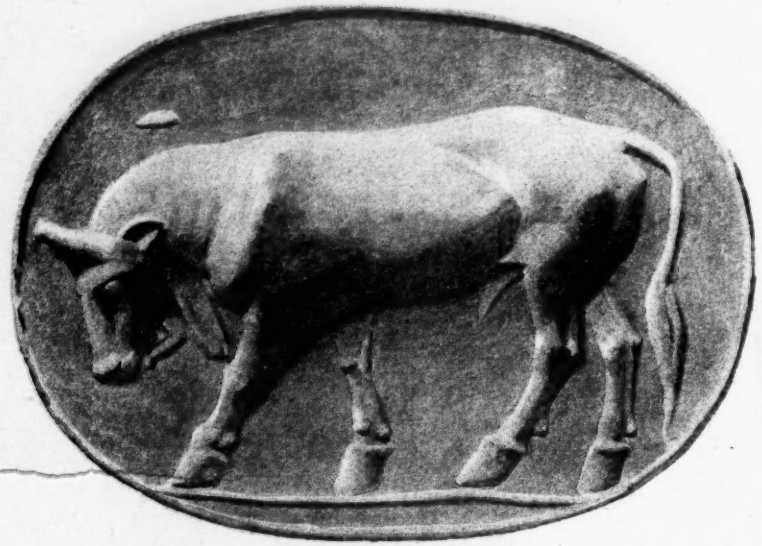


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig, 6.

Fig. 5.

Fig. 7.

Fig. 10.

Fig. 8.

Fig. 9.

Fig. 11.

Fig. 12.

"INK-PHOTO" SPRAGUE & Co. 22, MARTINS LANE, CANNON ST. LONDON E.C.

ANCIENT ENGRAVED GEMS IN THE BRITISH MUSEUM. (ENLARGED REPRESENTATIONS).

ILLUSTRATIVE OF MR. A. S. MURRAY'S LECTURE AT THE ROYAL ACADEMY.

ARCHITECTS' REGISTRATION BILL.

THE following is the "Statement" made by the Royal Institute of British Architects in opposition to this measure:—

"1. This Bill professes to be promoted on the ground of the expediency of enabling persons who have occasion for the services of architects, civil engineers, or surveyors, to distinguish between those who are qualified and those who are not qualified to practise as such.

2. The attempt by the Bill to place the interests of professions which have no direct and necessary connexion with each other under the administration of one General Council, largely composed of persons who may be selected without special qualifications for such a task, justifies a strong presumption that the promoters have no due appreciation of the means which already exist for securing the professed objects of the Bill, and this presumption is in consonance with the fact that the Bill is promoted without concert with those members of the several professions whose opinion is entitled to the greatest weight.

3. The general scope and intention of the Bill may be shortly stated to be:—To delegate to a General Council, composed of twenty-six persons (of whom only fourteen, under the provisions of the Bill, need necessarily be architects, engineers, or surveyors), functions which are now performed respectively by the Royal Institute of British Architects, the Institution of Civil Engineers, and the Surveyors' Institution. At the present time these Corporate Bodies are enabled, by their constitution and under their different charters, both to protect the interests of the public and maintain the character as well as the interests of their respective professions, and they have done so for many years.

4. The Royal Institute of British Architects was founded in 1834, and is governed by two Royal Charters, the first granted in 1837, the second in 1887. The main purpose which it was incorporated to effect is the ostensible object of the present Bill, viz., to establish a body of professional men to whom the public may look with security as competent for the vocation they profess.

5. By the terms of the Original Charter the Institute received within its body persons of known character, proficiency, and experience in their profession; and under the provisions of the Supplemental Charter, disabilities which may formerly have deterred some practitioners from joining the Corporate Body have been removed. The Royal Institute has been further enabled by that Charter to secure, by a system of Qualifying Examinations, a succession of men on whose knowledge and practical skill the public may rely. The organisation for carrying out these objects is in working order, and no desire or intention exists to exclude from the Royal Institute any reputable and competent British subject following the profession of an architect. If, in the future, the great majority of such persons are not enrolled in the Corporate Body and do not hold the Certificate of Membership, it will be owing either to the fact that they decline to seek the privilege, or that they have been unable to prove the sufficiency of their qualifications.

6. Under these circumstances, the Royal Institute of British Architects object to a Bill which could only be justified, in so far as the Corporate Body is concerned, by the clearest proof that the Royal Institute had ceased to fulfil duties, the performance of which was the object of its incorporation. But that this cannot be shown may be confidently asserted. Indeed, the Bill itself is evidence to the contrary, because the promoters do not venture to ask Parliament to deprive the Royal Institute of its powers to examine and grant certificates, although some of the provisions of the Bill undoubtedly override its independence under its Charters, and strike a covert blow at the very existence of the Obligatory Examination, which was established in 1882, for admission to the Associateship of the Corporate Body,—the sole professional examination in architecture as yet existing within the British Empire.

7. The chief provisions of the Bill appear to be based upon those of the Medical Act, 1858; but that Act scheduled the qualifications of a number of societies of almost equal status, all of which, prior to 1858, were examining bodies. This Bill proposes to schedule and to put upon an equal footing with your Petitioners' Institute, as well as with other institutions incorporated under Royal Charter, a number of associations of varying status (some of them principally composed of students), which are to have the right to send up 'from time to time lists certified under their respective seals of the several persons who, in respect of such membership, are for the time being entitled to be registered under this Act,' and that without any examination whatsoever (Section 19 of the Bill). In the majority of these societies or associations an inexperienced and unqualified person may become a member without previously undergoing any efficiency test; and therefore your Petitioners respectfully submit that the Bill offers no security against unqualified practitioners, nor will its provisions, should it become a law, enable the public to 'distinguish qualified from unqualified practitioners.'

8. Moreover, the Bill, though failing to afford any probable or possible protection to the public, imposes upon the professional members of the Royal Institute, numbering at the present time more than 1,100 persons, a heavy registration fee and an annual renewal fee, in return for which no real advantage is offered them. On the contrary, a positive injury is likely to be caused to the whole profession of architects by the passing of the Bill.

9. The chief argument advanced in favour of the Bill is that it will protect the public, and the promoters claim, as one of the merits of the measure, that it will put a stop to 'jerry' building. But it is well known to experts that, throughout the United Kingdom, the vast majority of domestic buildings are erected, not under the superintendence of architects, but of men who would pursue their business after the passing of this Bill, and with the same impunity, as they have done before.

10. The assumptions maintained by the promoters of the measure, that the Bill will remedy the preventable evils caused by bad water, faulty drainage, or imperfect construction, and that these are due, as a rule, to the ignorance or incapacity of architects, engineers, or surveyors, are absolutely untenable, the fact being that professional men are rarely, if ever, employed to superintend the erection of the buildings in which such evils are discovered, or in which they exist.

11. The right way to reach the 'jerry' builder, or similar building speculator, is to ensure the efficiency of all technical officers employed by the local or urban sanitary authorities under whose control such buildings are placed, and in this the Royal Institute is prepared to assist the Legislature by extending and developing the Examinations it holds by statute.

12. During many years the Royal Institute, under Section 33 of the Metropolitan Building Act, 1855, has been the examining body for the office of District Surveyor, every candidate for which must hold a certificate of competency from the Royal Institute; and this is granted on the recommendation of a Board of Examiners annually elected by the Corporate Body. Under other Acts of Parliament, local and special, the Royal Institute grants certificates, after examination, to persons desirous of holding the office of Building Surveyor or Inspector.

13. The Royal Institute of British Architects trusts, therefore, that this statement, which is made in defence of the best interests of the public and on behalf of the profession of architecture, will be taken into favourable consideration by members of the House of Commons, and that the Bill will not be read a second time."

BRITISH ARCHÆOLOGICAL ASSOCIATION.

AT the meeting of this Association on the 21st ult., Mr. C. H. Compton in the chair, it was announced that it was in contemplation to undertake some excavations to open out the site of the ancient Chapel of St. Germanus at St. Albans. The work will be undertaken if special funds admit.

Mr. Earle Way exhibited drawings of Coplestone Cross, Devon, and the copy of a charter of King Edgar's, in which the cross is mentioned. The cross is covered with interlaced work, and the charter proves its existence at the date named.

Mr. Loftus Brock, F.S.A., exhibited a series of pieces of ancient Roman mosaic glass found in Rome, exhibiting many various modes of workmanship, patterns, and colours.

Mr. A. G. Langdon produced a large number of measured drawings of crosses in Cornwall, exhibiting many varieties of pattern and design, and illustrating in a forcible manner the statements made with respect to these crosses, namely, that their numbers were very great, and that they were for the most part but little known and unedited.

A paper was then read by Mr. Langdon on "The Early Christian Monuments of Cornwall," illustrated by the plans before the meeting. Sketching the history of the Ancient British Church in the county, he referred to the dedications of the churches, which are, in the majority of instances, to saints who lived at a period anterior to the conquest of the district by King Athelstan, when the ancient Church became subject to Canterbury. The Cornish crosses resemble in pattern the early crosses of Brittany. Some are pillar stones only, others have inscriptions; many have well-defined cross-heads, not unlike those of the Irish crosses, although a plain round head is a very common type. Good examples exist at St. Columb Major, St. Neot, Lanteglos, Sancreed, &c., but these are all more or less known. Of the 230 parishes of the county, there are few which do not possess one or more.

In the discussion which ensued, Mr. Romilly Allen, F.S.A. (Scot.), referred to the mode of execution to produce the appearance of interlaced pattern in the hard material, granite, in which they were worked.

A second paper was then read by Mr. R. Mann on the recently-uncovered portions of the baths erected by the Romans at Bath, now being covered over, or worse, by new buildings. The paper was illustrated by plans.

RE-DECORATION OF THE ALHAMBRA THEATRE, LEICESTER-SQUARE.

WE have received from Messrs. Campbell Smith & Co. an account of the re-decoration of this building. We extract the main portions of it.

The character of the interior of the dome has been entirely altered by the substitution of a cerulean blue, in several shades, graduating in lightness of tint from the base to the summit, the sun-burner there being framed in an elaborate circle of colours, while an Alhambresque frieze in carton-pierre forms a base, the large cove below being ornamented with characteristic work in plaster, coloured.

The arches have been filled in with Moorish fretwork, surrounding several panels of stained and illuminated glass.

The backgrounds of the iron railings, forming the fronts of the various tiers of circles, are painted in a mosaic effect of colour, and the railings themselves have been gilded, and are now surmounted by polished brass handrails.

A change has been effected in the second circle, the iron and concrete ceiling having been covered with carton-pierre with ribs and pendants (radiating from the centre of the house) while a frieze supports the exterior railing. New Alhambresque capitals have been affixed to all the columns. The large open screen facing the second circle saloon has also been filled with fretwork and stained glass. The saloon itself has been kept Arab in character, as lending itself to rather bolder treatment than the actual Moorish or Alhambresque, and is in quite a different key of colour to the promenade of this floor.

Stalactites, rising in tiers, have been affixed to the ceilings of the first circle, and the walls panelled with carton-pierre and mirrors, while by a re-arrangement of the centre of the tier, additional space has been added to the promenade. The first circle saloon has also been re-decorated, and the grand staircase and box-office vestibule treated in diaper work in gold and colours, and fitted with stained-glass windows. The pit promenade has been decorated throughout in the same style as the other parts of the house.

The papers employed in the decoration of the staircases, &c., have been specially designed for the purpose, in order that the entire scheme might be as perfect and harmonious as possible.

The electric-light fittings, the draperies to the private boxes, and the patterns for the carpets, have been made the subjects of careful selection, in consultation with the designers of the decorations.

Messrs. Campbell Smith & Co. are the designers and contractors for the whole of the internal and external decorations and upholstery, &c.; Messrs. G. Jackson & Son supplying and fixing the carton-pierre for them. Messrs. B. Verity & Sons have supplied the electric lighting, and Messrs. Lapworth Brothers & Harrison the carpet. The work has been carried out under the supervision of Mr. E. Clark, architect.

Sale of a Sculptor's Casts.—The veteran sculptor, Sir John Steel, having given up his large studio in Edinburgh, the models and contents of it were recently sold by auction. The prices realised were miserable. The cast of the head and face of Sir Walter Scott, taken after death, was sold for 5s.; but, small as was this sum, it was four times as much as was given for casts of Napoleon and Canova. Six heads of celebrities, including the Prince of Wales, went for 9s., and for another series of six the price was 5s., although Dr. Chalmers was one of the subjects. Four plaster busts realised 24s., a recumbent figure of the Earl of Shrewsbury 20s., and a statue of Lord President Boyle 21s. The casts from the antique were not more in favour. Twenty shillings were paid for four sections of the Elgin Marbles, 22s. for the Venus of Melos, 5s. for the Medicean goddess, and 5s. for the Townley. The casts of the large statues, equestrian, seated, and standing, could find no bidders. The sculptor's modelling tools went for a guinea.—*Science and Art.*

AIR ENGINES FOR TRAMWAYS.

THE other day we had an opportunity of inspecting and seeing at work five or six of the British Mékarski Improved Air Engines Company's tramway cars, which are now running along the Caledonian-road, from King's-cross to Holloway.

The cars are constructed upon the system of M. Mékarski, of Paris, but with certain modifications necessary to enable them to fulfil the conditions imposed by the Board of Trade on mechanical traction for passenger tramways in England. We are informed that tram-cars upon this system have been successfully at work at Nantes for the last nine years, and also successfully on other lines in France. The line upon which the cars run extends for the whole length of the Caledonian-road, between Holloway-road and the King's Cross (Metropolitan Railway) Station. It is of a total length of two miles (all but a few yards), is either upon a rising or falling gradient the whole way, and has in one part of it, for a length of about 100 yards, a gradient of 1 in 27, and at one end of this gradient a curve of about 50 ft. radius; while in another portion of the line, and for a length of nearly three-quarters of a mile, the gradient varies from 1 in 60 to 1 in 40 to 43. A similar car to these had previously been running under Board of Trade and police sanction for a period of nearly four months. The cars take their turn with the horse cars, and carry their share of the passenger traffic. The line was laid early in tramway times, and is not, therefore, of the most recent and approved construction; the gauge is that common to tramways in England, viz., 4 ft. 8½ in. In addition to all this, the Caledonian-road is one of the busiest in London, several large factories being situated in it, the outlets from the Great Northern goods yards and the Metropolitan Cattle Market being into it. Working under these somewhat trying conditions, the air-cars nevertheless survive the ordeal, and keep proper time. Where possible, it is desirable to have either turntables or terminal loop lines for cars of this type, so that they may be driven always from the same end; but it was impossible upon such a line as this, and in streets so narrow and so crowded with traffic, to have turntables placed in the roadway at the terminal stations to which the cars run; and even if these had been possible, great interference with the traffic would have been caused in turning the car upon them. It was, therefore, necessary to provide means of driving the car from either end, and this has been done by making either end the entering end for passengers or for driving, as may be required. The stables of the Tramway Company are at the Holloway-road end of the line, and in a building at the rear of the stables boilers and engines have been placed, to supply the power to work the air-compressing pumps. By means of these engines and pumps atmospheric air is compressed into reservoirs, placed in the engine-house to receive it, to 450 lb. on the square inch. From the reservoirs the air is, when the car is coupled up to the charging-pipes, allowed to pass into reservoirs (similar to those in the engine-house, but smaller) which are carried underneath the car-body. When the reservoirs on the car are charged with atmospheric air to the necessary pressure, the charging-pipes are disconnected and the car is ready to commence its journey.

As to mechanical details, the car is four-wheeled, one pair of wheels alone being used for driving. To the driving-wheels a pair of high and low-pressure ordinary working cylinders, each of 8-in. stroke, are connected. The high-pressure cylinder is 5¼ in. diameter, and the low-pressure is 8 in. diameter, the compressed air from the reservoirs being used through them successively. Means are provided by which the high-pressure air can be used in the low-pressure cylinder, if necessary, to facilitate starting. The principal feature of the system, however, is that the air in passing from the reservoirs to the cylinders bubbles through boiling water and steam of 60 lb. pressure on the square inch, contained in a vessel called the "hot-pot,"—this vessel being charged at the pumping-station during the time occupied in charging the car with compressed air. The advantages claimed in thus using the air are that the heat which the air takes up in passing through the hot water not only causes the air to expand, but prevents the formation of snow in the cylinders and at the exhaust. The moisture also picked up by the air, in its passage through the water, acts as a lubricant for the slide-valves and pistons. The working pressure in the high-pressure cylinder can be varied at will; it is usually from 120 lb. down to 50 lb. on the square inch, the variation being regulated by a valve of peculiar construction. One of the "hot-pots," with its regulating valve upon it, has been placed at each end of the car, and means for ingress and egress of passengers have (as already said) been provided; so that when the end of the journey is reached, the driver takes his reversing handle and the wheel of the regulating valve to the opposite end of the car with him, and the conductor changes ends as in the ordinary horse-car.

The car, which presents very much the appearance of an ordinary horse-car, but without the horses, and with its platform or floor placed at a somewhat greater distance from the ground, makes no noise with the exhaust of the engines; there is no steam visible; neither is there any smell of fire, or of hot oil or other lubricant for the engines. The first cost of each car is stated to be about equal to one of the ordinary horse-cars and its equipment of horses (ten).

Among the many requirements of the Board of Trade is one which says that there shall be provided upon the car a governor, which shall, when the car exceeds a speed of ten miles an hour, not only cut off the steam (in this case it is air) from the engines working the car, but shall put on its brakes. An apparatus fulfilling these requirements has been devised and fitted, and it works most satisfactorily.

As an extra precaution for safety, the brakes can be applied to all four wheels in either one of three different and distinct ways. With the most powerful of these arrangements, and when running at its greatest speed and in ordinary weather, the car is brought to rest in a distance slightly exceeding its own length.

The trial-trips were in every way successful.

THE FREDERICK EDWARDS TESTIMONIAL FUND.

WE are informed that an influential committee is in course of formation for the purpose of raising a fund sufficient to make a moderate provision for Mr. Frederick Edwards, jun., for the remainder of his life, in acknowledgment of the public services rendered by him for nearly forty years in such matters as the economical efficient use of fuel in domestic fire-places, and the prevention of smoke. Mr. Edwards is the author of "Our Domestic Fire-places," "Ventilation and Heat," "Smoky Chimneys," and "The Use of Fuel in Cooking," and most of them will be familiar to many of our readers. The committee includes a number of well-known men, among them Sir Douglas Galton, F.R.S., whose endorsement of Mr. Edwards's claim to some recognition of his services we are glad to see.

Mr. Edwards's labours, although they have been of public utility, and have largely influenced the whole course of matters in the stove trade from the period of the Great Exhibition of 1851, have not, unfortunately, been sufficiently remunerative to provide for his latter days. Six years since he was compelled by a succession of adverse circumstances to relinquish business, and he is now living in the Isle of Wight chiefly dependent on a small pension granted him by the Metal Trades Pension Society, but the amount of this is only some 10s. per week, a sum quite insufficient to save himself and his wife from virtual destitution. Hence the necessity for a public appeal. Mr. Edwards had an attack of paralysis many years ago, and is physically unfit for an active life.

Gentlemen wishing to join the committee may send their names to the Honorary Secretary, Mr. John Marsh, Clerk to the Local Board, Shanklin, I.W.; or to Messrs. Benham & Sons, Wigmore-street, who have kindly consented to answer any inquiries; or to Mr. Edwards himself, at Boston Cottage, Shanklin, I.W. The Treasurer of the fund is Mr. A. F. Swayne, Capital and Counties Bank, Shanklin. The total amount received up to the present time is only a little more than 50*l.*

Sale of Liverpool Exhibition Buildings. We have received from Messrs. Wheatley Kirk, Price, & Goulty the catalogue of the buildings and materials connected with the recent Liverpool Exhibition, which are to be sold by auction on April 17th and the three following days. The auction will be an important one for builders and contractors. Each section of the buildings is to be offered first as a whole, or subsequently, if not sold, as an iron structure merely, giving the purchaser the option of taking the boarded floors and sides.

AN ARCHITECT'S CLAIM FOR PROFESSIONAL SERVICES.—COUNTER-CLAIM FOR DAMAGES.

MCLACHLAN *v.* GRANT.—GRANT *v.* MCLACHLAN

THESE cross actions were consolidated and tried together in the Court of Queen's Bench on the 27th ult., before Mr. Justice Cave and a special jury. Mr. Channell, Q.C., and Mr. Wedderburn appeared for Mr. McLachlan. Miss Grant conducted her own case.

From the opening statement of Mr. Wedderburn it appeared that Mr. Hugh McLachlan, architect and surveyor, claimed the sum of 217*l.* 8s. 8d. for professional services rendered to Miss Grant in preparing plans and specification for a school proposed to be erected in Addison-road, Kensington, and for obtaining tenders for the erection of that part proposed to be first built. This claim was based on a commission of 3 per cent. on 4,852*l.*, being the lowest *bonâ fide* tender for the erection of such part, and 1½ per cent. on 5,750*l.*, being the estimated cost of the buildings proposed to be carried out at a future time, and for which sketch-plans had been made. Miss Grant repudiated this claim, and made a counterclaim for 800*l.*, being the amount of damages alleged to have been occasioned to her owing to the refusal of Mr. McLachlan to give up to her copies of the plans and specification, so causing delay in the erection of her building and a loss arising from the site standing useless for a period of nine months, being 5 per cent. interest on the cost of the site, 4,500*l.*, and the loss of fees from scholars who would have entered or remained in her school had the new building been erected earlier.

Mr. Channell, Q.C., opened the case for Mr. McLachlan. He stated that Miss Grant was the proprietress of a girls' school at Kensington of considerable extent. On the evening of November 7th, 1883, she had her first interview with Mr. McLachlan by appointment at his father's house; she then stated that she proposed to build a school for 800 girls, at a cost of 2,000*l.* That, Mr. McLachlan said, could not be done, but she could either build a smaller school to accommodate a less number at a cost of 2,000*l.*, or could obtain a site for a school to accommodate the whole number, and have a portion thereof erected in the first place at the same cost. Miss Grant acceded to the latter proposal, and it was arranged that Mr. McLachlan should then visit her at her school at Russell-road, Kensington, on the following Saturday afternoon, to inspect some sites in the Addison-road. This was done, and at this meeting it was agreed that his charges should be those mentioned in the Schedule of Professional Charges of the Royal Institute of British Architects. Preliminary sketches were at first prepared for a site proposed to be purchased, for which the vendors required the sum of 2,000*l.*, but for which Miss Grant offered 1,500*l.* only. Negotiations for this site were carried on, but nothing serious was done, so far as plans were concerned, as no site was settled on. Finally, on the 10th March, 1884, Miss Grant purchased another site in the Addison-road, for the sum of 4,500*l.* She then directed Mr. McLachlan to prepare a preliminary plan, as at first agreed on. The plan thus prepared was approved of by her on the 18th of that month. Questions then arose as to whether Miss Grant was restricted from building a school on that site. She directed Mr. McLachlan to write to Mr. Aston, the surveyor for the estate, and to send him a tracing of that part of the building fronting to the east, asking his approval thereof. Mr. Aston wrote finally, on April 10th, that the proprietors of the estate could not approve of the proposed building. Miss Grant then decided to defy the original holders of the estate, and to have erected that part fronting to the west, three stories high, with a hall on the top floor. It was pointed out to her that the cost of this would be more expensive than the other part, of which it was proposed at first to erect only two stories. There was a further portion to be afterwards erected, fronting to the south, and looking down Addison-road. Mr. McLachlan had also previously written to Miss Grant, pointing out that the cost of the entire building on the new site would be much above that for the site first thought of. Progress was then rapidly made; the working drawings were prepared, quantities were taken out, and tenders were obtained from builders on July 17th following, the amounts of the tenders varying from 5,787*l.*, the highest, to 4,852*l.*; but there was one tender below these, for the amount of 3,268*l.*, which Mr. McLachlan challenged as a bogus tender, his reasons for which were given in a letter to Miss Grant on July 21st. She rejected all the tenders, and proposed to build herself, and wrote to Mr. McLachlan for the working drawings. An extensive correspondence followed, which Mr. Channell read at length. Miss Grant then put off the work on July 29th, as she was going for a holiday, and stated she would write to Mr. McLachlan on her return. On September 15th, she wrote that she had returned, and asked him to meet Dr. Davidson at her house to dinner, when the working drawings were ready; he replied he was ready whenever she pleased. In the same month Mr. McLachlan sent in to Miss Grant an account for the taking-out of the quantities, lithography, &c., amounting to 120*l.* 12s. That she refused to pay; some correspondence arose thereon, and Miss Grant ultimately took the work out of Mr. McLachlan's

hands. Mr. Cuxson, who was concerned for the quantities, pressed for his money. Miss Grant refused to pay, but offered to meet Mr. Cuxson in a court of law, and pay what it should be decided was due from her. That she had since done, as a verdict was given against her for the full amount claimed. On January 7th, 1885, Miss Grant sent Mr. McLachlan a long letter, stating that her estimate of the work for which he had prepared plans was 2,400*l.*, on which amount she said she was prepared to pay commission. This proposal Mr. McLachlan declined to entertain; he stated that already more was due to him than was offered for the whole, superintendence included.

Mr. McLachlan was then called, and testified to the before-mentioned facts, and that the charges were the usual charges. Cross-examined by Miss Grant, he replied that she had placed no limit on the amount to be expended; that though 2,000*l.* was first contemplated, that amount had been gradually exceeded with her consent; that she had herself called for more costly construction and materials in fireproof flooring, terra-cotta fronts, and increased accommodation. He understood from the first that she thought of being her own builder, but he endeavoured to dissuade her from entertaining that idea.

Mr. Benjamin Tabberer, F.R.I.B.A., District Surveyor for Greenwich, gave evidence that he had seen the plans, and that the charges made were the usual charges, and were fair and reasonable charges for the work done.

One or two other witnesses having been called on behalf of Mr. McLachlan,

Miss Grant addressed the jury, stating that she had limited the proposed expenditure to 2,000*l.*; that she had determined to build from the first herself; that though she agreed to the obtaining of tenders, she intended not to accept any; that she had not commissioned Mr. McLachlan to make any plans for the part not to be first erected; that Mr. McLachlan had not prepared the working drawings for which he claimed, as he had not made all the detail drawings; and that it was iniquitous that architects should charge five per cent. on the cost of a building, which meant that for every 1,000*l.* more they spent on a building, they put 50*l.* into their own pockets.

Miss Grant having gone into the witness-box in support of her case, was cross-examined by Mr. Channell, and admitted that she approved of the design submitted, and said that she differed from Mr. McLachlan as to the cost; though he told her what was his idea of the cost, she considered that he was wrong, and that she knew better. She also admitted that she agreed to the getting in of the tenders as "experimental," though she had determined to build herself. Asked why she did not accept either of the tenders, she said, "Because I saw the trap, and would not go in" (laughter). Further pressed, she said she would not have accepted a builder's tender for the work even if there had been one as low as her own estimate of the cost of the work, because she had determined to be her own builder. She did not want a "jerry-built" structure. She believed that by being her own builder she would save the builder's profit and get a much better building for her outlay. In regard to the building which she had now actually erected, she had been her own builder, her assistant, Miss Harrison, having prepared the plans. Her new school had cost a considerable sum more than she at first expected, but she would rather not say what she had expended up to the present time. But it was a finer building than the plaintiff designed (laughter). The main walls were 27 in. thick as against 18 in. provided for by Mr. McLachlan's plans.

Mr. Hart, District Surveyor of West Kensington, was then called by Miss Grant. He said that if instructed to prepare designs, he would not go beyond the amount to which he was limited, and would not charge a commission upon anything beyond that sum. Cross-examined, he said he would not say he would not charge commission on 4,800*l.*, if he had been instructed to prepare designs which he had stated would cost that sum, but which his client maintained would only cost half. He admitted that detail drawings were often prepared as the work proceeded. Questioned by Mr. Justice Cave as to the cost of the building actually erected, he said, in his opinion, it would cost about 7,000*l.* or 8,000*l.*

Another witness having been examined, exception was taken to Miss Grant's pleadings with regard to her counter-claim, most of which Mr. Justice Cave held to be irrelevant. Miss Grant hereupon asked for a postponement and separate trial, but Mr. Justice Cave said if it were postponed it would have to be at her own cost, and that he did not think she would make matters any better for herself.

Miss Grant then addressed the jury on the question of her counter-claim, claiming for delay from June, 1884, to the preparation of Miss Harrison's plans in the spring of 1885. She stated that Miss Harrison would prove her calculations, and called that lady.

Miss Ellen Louisa Harrison then entered the witness-box. She explained that a certain fee per term amounted to so much per year, and that this multiplied by the number of scholars alleged to be lost through the delay in providing new buildings would prove the amount of damage on that point.

It was objected that it was first necessary to prove that the parents had removed their children from Miss Grant's school owing to the delay in the erection of the new buildings. Only one witness was heard in support of this ground of damage, and he admitted that the young lady as to whom he spoke was nineteen years of age at the time she left the school.

This closed the evidence.

A question having been raised by a juryman as to whether the lowest tender, *i.e.*, that on which Mr. McLachlan based his claim, should not be considered to be that for the amount of 3,268*l.*, Mr. Channell answered that that point had been specially raised as a direct issue at the last trial; that evidence was given thereon; that the jury put it on one side as a bogus tender; and that Miss Grant had not herself again raised that point at this trial. He was ready to produce evidence on the point at once if called for.

Mr. Justice Cave, in summing up the case to the jury, said there was no question as to the retention of Mr. McLachlan's services as professional adviser, and it only remained for the jury to decide as to the amount to be paid for the work done. He pointed out that by the schedule of the Royal Institute of British Architects, 2½ per cent. was to be paid on the preparation of working drawings and specification, *plus* half per cent. on obtaining tenders. As to the 1½ per cent. for the sketch-plans of the deferred buildings, he did not find that mentioned in the schedule, and supposed it was understood in the extra charges referred to. As to the counter-claim, he had looked over the whole of the correspondence, which was very voluminous, and he did not see any complaint from beginning to end as to damages arising from delay in completing the plans, nor had any evidence been given that Mr. McLachlan had been warned that he was incurring a penalty of something like 100*l.* a month by such delay. It was, in his opinion, monstrous that such a counter-claim should have been made.

The jury, after a few minutes' deliberation, gave a verdict for Mr. McLachlan for 2½ per cent. on the tender amounting to 4,852*l.*, and ten guineas for the extra work in preparing sketch-plans for the complete design to a scale of 16 ft. to an inch,—total amount, 131*l.* 16s. They found against Miss Grant on the counter-claim.

Miss Grant will therefore have to pay the costs in both actions.

ENGLISH AND BELGIAN ROLLED STEEL GIRDERS.

SIR,—In your issue of the 3rd ult. [p. 161] you have a letter from Mr. Archibald D. Dawnay upon the subject of Belgian *versus* English joists, in which he commits himself to statements which, I think, no other engineer having experience of this special branch of the trade will allow to be accurate.

Perhaps he will give a little further information, to enable your readers to form a better idea of the value of his tests.

What were the respective sectional areas and weights per foot of each joist tested?

The steel joist being defective in rolling, "scarcely a straight foot in its length," did he have it straightened before comparative test was made?

Were the respective joists supplied at random from a maker's deliveries, as a fair sample, and forwarded to him for testing purposes?

The steel being "bad," will Mr. Dawnay please give the analysis, as in joists this is of the utmost importance?

Thousands of tons of English iron and steel joists have passed through my hands during the last four years, and I find the demand to be materially increasing,—in fact, once they have been tried by any experienced architect or engineer, those gentlemen have never again considered Belgian material applicable to their works.

About two years ago I made a series of careful tests, and give you the first made of each class, as follows:—

ENGLISH STEEL GIRDERS.

Section 12 in. × 6 in. × 6 in.; weight, 52 lb. per foot.

No. of Test.	Centre load.	Deflection	Permanent Set.	Remarks.
	Tons.	in.	in.	
1	10	¼	nil.	
2	15	5/16	,,	
3	20	7/16	,,	
4	25	9/16	,,	
5	30	½	,,	
6	35	11/16	1/16	
7	40	1 3/16	3/16	Weight on 60 minutes.

Tensile Test.

Flanges, 40·64 tons per sq. in. { 11¼ % elongation. 12·62 % contraction.

Web, 46·00 ,, ,, { 11½ % elongation. 18·44 % contraction.

ENGLISH IRON GIRDER.

Section, 12 in. × 6 in. × 6 in.; weight, 52 lb. per foot.

No. of Test.	Centre load.	Deflection	Permanent Set.	Remarks.
	Tons.	in.	in.	
1	10	3/16	nil.	
2	15	7/16	3/16	
3	20	½	3/16	
4	25	1½	9/16	
5	30	2¼	2¼	Beam bent downwards only, and remained.

Tensile Test.

Flanges, 25 tons per sq. in.
Web, 20 ,, ,,
Elongation and contraction not taken.

BELGIAN STEEL GIRDER.

Section, 12 in. × 6 in. × 6 in.; weight, 52 lb. per foot.

No. of Test.	Centre load.	Deflection	Permanent Set.	Remarks.
	Tons.	in.	in.	
1	10	1/16	nil.	
2	15	3/16	,,	
3	20	¼	1/16	
4	25	1½	½	
5	30			Broke in half. Short fracture. Grey and crystalline.

Tensile Test.

Flanges, 20·6 tons per sq. inch.
Web, 18·9 ,, ,,
Elongation and contraction not taken.

The clear span for all the above tests was 15 ft., girders being loosely supported on Λ blocks.

None of these joists were specially made for test purposes.

What engineer will assert that the Belgian joist gives the best result in this case?

Mr. Dawnay's facts have a very poor foundation if they are based on the single test which he gives, as he distinctly states that in every sense the English joist was defective. Let him take at random, from an average delivery of English steel and Belgian iron, a joist equal in weight, depth, and breadth; test them on the same span, and under exactly similar circumstances, and I will warrant that the English joist will be found to be the stronger by at least 25 per cent., and that for straightness, clean edges, smoothness, general finish, and tensile strain, &c., it is infinitely superior; and these are the points which eminent engineers look to for bridge work and general construction.

ACERO.

March 27, 1888.

"THE WORK OF ALFRED STEVENS IN LIVERPOOL."

SIR,—In his remarks on this subject [see *Builder*, p. 223, *ante*] Professor Conway refers to the seldom-seen tile pavement of St. George's Hall.

Two things, and two only, with regard to this pavement, are good,—the drawing of the figures and details, very probably by Stevens, and the execution of the work by Minton. The main design, so far as the arrangement in three circles is concerned, was undoubtedly adopted or adapted by Professor Cockerell from suggestions by Herr Grüner, and a less happy way of treating such a floor could scarcely be conceived. Here was a vast apartment evidently and (among architects) notoriously short in proportion to its breadth and height, and in which, consequently, it was essential that every means should be used by continuity of line and by extended horizontal repetition of similar features for the purpose of counteracting this impression of disproportion; and a well-studied pavement having this character might have aided greatly towards this end. But what was done? A form of design was used which, consisting of but three great features, carried the eye at a bound from end to end of the hall, and helped to emphasise the native defect.

The generally accepted and most just idea that a pavement should bear in its design a distinct relation to the form of its apartment, and in a degree refer also to its form of ceiling or covering, was entirely thrown aside, and a scheme adopted which had not the smallest relation to the plan of the room, and left most ill-shaped and awkward spandrels and cornices to be dealt with, as it were, haphazard. The use of the great central circle, of a diameter

the breadth of the hall, would have corresponded with a great central cupola overhead; and had there been such a feature an excuse would have existed for the other. But here was nothing whatever to suggest this form, and everything to call for different treatment; and it is the fact that whenever the pavement is visible the hall looks smaller, an effect assisted no doubt by the raised margins above the main flooring, an idea of Elmes's of very questionable judgment, and with no very obvious aim.

Why Professor Cockerell should have sought the advice of Herr Grüner, who was not an architect, it is hard to see, unless it were that it seemed a graceful and courtly act to consult the Prince Consort's art agent, a more familiar than welcome visitor, I imagine, in the studios of the day. The whole mode of treatment pursued by Professor Cockerell in the completion of this interior was certainly not marked by his usual felicity, and seems to teach the lesson that in taking up an unfinished work the original intention of the designer should be adhered to.

The de-Hellenising of St. George's Hall was not a happy inspiration. The breaking-up of the continuous lines, and the mode of springing the main vault, with the colossal figures introduced, all tended to the result I have spoken of,—to reduce, namely, the impression of length and of scale in that dimension as compared with the other two; and the treatment of the panelling of the great vault, not in the manner of coffering, but in wide, bordered panels "à la Vignola," as the Professor said to the present writer, led again to the reduction of the number of parts, and so lessened the impression of size. Will St. George's Hall ever be completed? A single panel (I think) of those prepared for sculpture externally has been cut, not one statue of those for which bases are provided between the square columns of the principal front has been placed, and those who can remember the effect gained in the model by these accessories can appreciate the loss to the building. The Corporation could find funds for the sculpture designed for their Municipal Buildings; will no wealthy Mayor or Alderman set the example of one step towards finishing the chief architectural monument of the second city of the kingdom?

II.

SIR,—Will you allow me space for a few lines in reply to Professor Conway's paper in your last issue upon the works in St. George's Hall, at Liverpool, designed and carried out under the superintendence of the late Professor Cockerell?

I shall not go very fully into this matter now, as it will be treated at greater length in a forthcoming work. But, as Mr. Conway has made a free use of my name in the article referred to, I may be allowed to correct at least one very curious mistake, viz., as to my being "the Professor's pupil at the time in question." I was not so young as Mr. Conway supposes. At the time these works were commenced I had been in Mr. Cockerell's office thirteen years; I was then thirty-five years of age, and taking the lead in the office. An attachment sprang up between us, and I became his confidant in all professional matters. This lasted for six-and-twenty years, so that my evidence is not the result of any superficial knowledge or mere hearsay.

The sculptures of the pediment were begun in 1846, and by the latter part of 1848 many of them were in a forward state, and standing in Nicholl's studio in Grafton-street, Tottenham Court-road.

The first of Stevens's introduction to them was to make a drawing of them, *as executed*, for a lithographic plate.

I was frequently in Nicholl's studio, he being also engaged upon several smaller matters of architectural ornament for works partly under my superintendence, so that I saw these sculptures in progress, and also saw Stevens at work upon the drawing of them. On one occasion when Johnson, one of Nicholl's principal men, had just finished "pointing" the anchor-smith at the extreme left of the pediment, I remarked, looking at the model, "He is a powerful, muscular looking fellow." Johnson replied, "Yes, this is from one of Nicholl's models of Jim —." (The man's name has escaped my memory, but he was a celebrated pugilist who used to sit as a model to Nicholl.) This is one of the figures which is claimed to have been modelled by Stevens. At this time Stevens was not in practice as a sculptor, and all that he did was to make the drawing from the sculptures themselves. This was finished before the figures at the extremes of the pediment were all modelled, and this will account for the more "Stevens-like" character of them in the lithograph, but a photograph of the pediment as finished shows the hand of the same sculptor throughout,—every figure being done by Nicholl.

As to the tile floor, — the design was Cockerell's, assisted by Grüner. This was one of the instances in which Cockerell took care to fortify himself with the best advice in what was comparatively a new material. I was at this time in practice for myself, and Cockerell, when he resigned his position of architect to the Bank, made use of my offices. I assisted him and accompanied him in every visit to Liverpool, about every six or eight weeks, staying from two to five or six days,—from 1851 to 1855 (except once in February, 1854). The design for the pavement was finally approved by the committee in July, 1852. Mr. Garrett, Minton's manager, was there with their tender, which was accepted at the same time. Cockerell had made variations in several sketches of the ornamental portions, some of which had been suggested by him in committee, one in particular. In the centre of the floor and at each end is a broad circular band; in the general design there were sphinxes and scroll-work. Cockerell substituted tritons and sea nymphs, &c. Garrett took away these drawings and sketches.

Stevens at that time was largely engaged by Minton in designing various things for their particular manufacture, and his work upon this floor, for Minton, was to make out full sizes of the ornamental portions for the tile and tessera modellers; before, however, these full sizes were put into the modellers' hands they were sent to Liverpool and laid in their places upon the floor for Cockerell's final approval.

There is another gentleman living, Mr. Kelsey, an architectural modeller and sculptor, who was engaged in the work at the hall, from 1849 till 1856, and who has a vivid recollection of these sketches and drawings, but neither he nor I ever saw Stevens in the building; there was no necessity for his being there. Of course, with these variations, Stevens would have to make some preliminary sketches for the enlargement; it was also necessary for the use of the workmen laying the paving that they should have a correct general plan. This was made at Minton's works to a somewhat larger scale than the Cockerell and Grüner plan. These drawings never came back to us, as they should have done, but like many others, if we left a good drawing or sketch for the use of the workmen or other purpose, it frequently disappeared in the interval of our visits. These, I apprehend, are the drawings now at the Municipal Offices, and which I hope to see before long.

I may remark that when these works were in hand, Stevens was engaged as a designer of various art manufactures. In 1847 and 1848 Cockerell was engaged in a work upon "The Sculptures of several English Cathedrals," and Stevens made the drawings for the Lincoln portion of that work; this is mentioned in Mr. Armstrong's memoir of Stevens, but not one word is said there about St. George's Hall, nor did Stevens ever think of putting forward these claims. The copy of Cockerell's first sketch of the pediment sculpture accompanying Mr. Conway's paper is not the drawing Elmes saw at the Academy, nor is it the drawing which the Committee had before them when they ordered this work to be carried out under Cockerell's superintendence. That drawing was presented to the Corporation of Liverpool at the opening of the hall in 1854, and is referred to by Mr. Conway as a "washed" sepia drawing, whatever that term may mean. The arrangement of the sculptures in this drawing was very like Cockerell's final arrangement, as they now exist. I may add that the design for the pediment sculptures had nothing whatever to do with the Royal Exchange.

J. E. GOODCHILD.

New Clock at St. James's Church, Devizes.—A clock has just been placed in the tower of St. James's Church, Devizes. The tender selected was that of Mr. J. W. Benson, of London. The clock has one dial, 5 ft. diameter, of stout sheet copper, and the hours are struck on a bell of 9 cwt., the quarters being chimed on two smaller bells.

SUPPLY AND FIXING OF IRONWORK.

SIR,—We are glad to notice in your issue of the 24th inst. [p. 214] that our neighbours, Messrs. Geo. Wright & Co., have called attention to a new system, now unfortunately much in vogue, of ironfounders being asked to quote prices for the supply and *fixing* of ironwork, often including more value in the builder's work than in the iron itself.

From our practical experience there is now less need of this than ever, as ironwork,—such as railing and gates and ornamental conservatories and verandahs, and such like constructional work,—is, as a rule, so perfectly made and fitted up at the foundries, and marked and numbered ready for re-erection on site, as to make the fixing a very simple task.

We ourselves very often have to refrain from quoting on account of the fixing on site being stipulated.

STEVEN BROS. & CO.

A JUBILEE PARISH HALL AT CAMBERWELL.

THE inhabitants of Camberwell and district are indebted to an anonymous donor (whose name is, nevertheless, an open secret) for a new public hall which has just been erected in that locality. The building is in commemoration of the Queen's Jubilee, and is intended to be utilised for the purposes of public meetings, lectures, and entertainments connected with the parish, and is also to be appropriated as an educational establishment in connexion with evening-classes for secondary and technical teaching. It is situated a short distance from Brixton and Camberwell New-roads, in what is known as "Myatt's Fields," which have been for many years occupied as market-gardens. These fields were fast being encroached upon by the builder, and it is therefore worth mentioning here that the donor of the Jubilee Memorial Hall is also the munificent donor of fourteen acres of land immediately adjoining, for the purpose of a park and recreation-ground; the work of forming this park has found occupation at a low rate of wages for many men who would otherwise have been unemployed during the past winter. The new Jubilee Hall has a distinctive architectural character, the principal portion of it, containing the main public hall, being octagonal on plan. It is faced with red brick and Bath stone dressings, and is carried to a height of nearly 50 ft., the roof being covered with Broseley tiles, and surmounted in the centre by a lantern. The interior of the hall is about 60 ft. in diameter, and it will seat an audience of upwards of 500 persons. Elliptical arched windows are carried round the octagon, the hall being approached through an elliptical arched entrance, 15 ft. wide, flanked on each side with stone buttresses. Beyond the octagon, in the rear, is another block connected with the main building. This block contains the class-rooms, in which the educational work of the establishment is intended to be carried on. Kitchen and culinary provision are likewise made for festival occasions. Mr. G. Hubbard, of Finsbury-circus, is the architect, and Messrs. A. & E. Braid, of Chelsea, are the contractors. Mr. F. Curtis is clerk of the works.

GREEK AND ETRUSCAN ANTIQUITIES AT EDINBURGH.

THE *Scotsman* informs us that there was lately presented to the Edinburgh Museum of Science and Art an interesting and valuable collection of Greek, Etruscan, and Roman antiquities, consisting of bronzes, pottery, and glass ware, collected principally in Italy, in the winter of 1843–4, by the donor, Sir Hugh Hume Campbell, of Marchmont. Of these objects, which may be taken as fairly representing the furniture of the Greek and Etruscan tombs of the last five centuries before the Christian era, an illustrated catalogue has been prepared at the request of the Director of the Edinburgh Museum, Colonel R. Murdoch Smith, R.E., by Mr. Cecil Smith, Assistant Keeper of the Department of Greek and Roman Antiquities in the British Museum. The series consists of 236 different articles.

East Window, Trinity Church, Margate.—The east window of Trinity Church, Margate, has been filled with stained glass, from the Studio of Mr. W. G. Taylor, of Berners-street, the gift of various donors interested in the church. The glass is of the fifteenth century character.

The Student's Column.

IRON.

XIV.—COMPARATIVE MERITS OF GIRDERS SUPPORTED AND FIXED IN DIFFERENT WAYS AND SUBJECT TO A UNIFORM LOAD.

WE will now compare the 60 ft. girder under the influence of other methods of support with the case already investigated. First, let us suppose it is required to increase the load, and that the resisting capacity of the girder is not sufficient to safely carry this additional load. It will be necessary to strengthen the girder in some way. This may be effected by *fixing the ends*, if possible, in the walls. The bending moment at the centre with the load of 1 ton per foot run will then be $\frac{60 \times 60}{12} = 300$ foot-tons, or one-third less than under the previous conditions. In this case the bending moments at the ends will be also 300 foot-tons. This is shown graphically in fig. 3, where the parabola A D B drawn

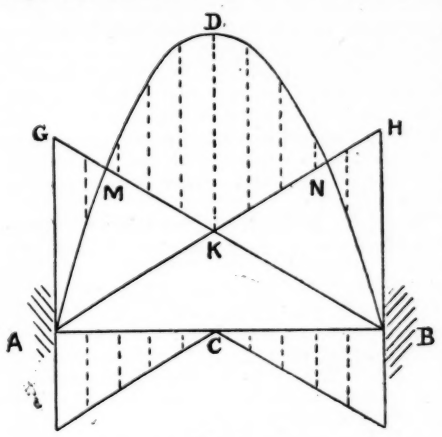


Fig. 3.

in fig. 1 (p. 234, *ante*) is repeated, the bending moments at the ends A G, B H are plotted, and having joined the points G B, H A, the central line D K should scale 300 foot-tons equal to G A and H B. The intersection of the lines G B and H A with the parabolic curve determines the points of contra-flexure marked M and N. The end portions of the girder from M and N to the supports act as cantilevers, the central portion between M and N acting as a girder supported at the points of contra-flexure. From the above calculation it appears that the girder (fig. 3) with fixed ends is capable of carrying 90 tons before the bending moment will equal 450 tons, while the same girder with unfixed ends could only carry 60 tons (60 being 2-3rds of 90). With respect to the shearing stress, in the case of girders fixed at the ends subject to a uniform load, the shear at every point is the same as for a girder supported only. The webs which take the shearing strains are generally made considerably greater in section than the requirements of theory would demand, and perhaps the additional shear of 15 tons at each wall, due to the load being increased from 60 to 90 tons, could be resisted by the insertion of some extra stiffeners.

Let us next investigate the case of a beam fixed at one end, and resting on a support at the other end. The tangent to the beam at the fixed end A is horizontal. If we consider the 60 tons and the reaction at R (fig. 4) as forces

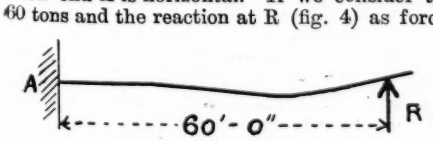


Fig. 4.

acting upon a cantilever, AR, we can obtain the value of R by calculating the following deflections:—(1) The deflection of a semi-girder of uniform section loaded uniformly; (2) the deflection of a semi-girder of uniform section loaded at the extremity. The former is expressed by the formula $\frac{Wl^3}{8EI}$, and the latter by the formula $\frac{Wl^3}{3EI}$, where W = the bending weight, l = the length of the girder, E = the coefficient of elasticity, *i.e.*, the weight in pounds required to elongate or shorten a bar whose transverse section equals one square inch by an amount equal to its length, on the imaginary assumption that the law of elasticity holds good for so great a range.

And I = the moment of inertia of any transverse section round its neutral axis, which in the case of a girder of uniform section is a constant quantity throughout the whole length of the girder.

In the case under consideration, the supports being at the same level, these deflections must balance one another: hence,—

$$\frac{Wl^3}{8EI} = \frac{Rl^3}{3EI}$$

$$\frac{60 \times 216000}{8EI} = \frac{R \times 216000}{3EI}$$

$$\therefore 60 \times 3 = 8R$$

Force R = $22\frac{1}{2}$ tons.

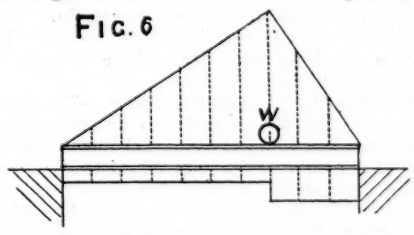
Force at A = $60 - 22\frac{1}{2} = 37\frac{1}{2}$ tons.

The moment A = $(22\frac{1}{2} \times 60) - (60 \times 30) = -450$ foot tons.

This gives the same result as the first case we considered, in which the girder rested unfixed on its supports; and therefore, with a girder of uniform section, and loaded uniformly, nothing is gained by fixing one end and supporting the other, as in fig. 4; for although the moment at the centre is reduced, the metal has to resist a greater moment at another point, namely, the fixed end.

*** Readers are requested to substitute the accompanying diagram for the fig. 6 appended to Student's Column, on p. 179, *ante*, showing shearing stresses under a load at any selected

FIG. 6



point. By a draughtsman's error, the greater shearing stress was shown on the wrong side of the diagram. We have to thank a correspondent for calling attention to an error which was overlooked at the time.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

5,901, Tiles, &c. J. D. Doulton.

This invention relates specially to tiles or blocks of a curved form for the inverts and sides of sewers and drains. The face of the tile is made of any radius, the sides being slightly bevelled and roughed at the edges for pointing. In order to prevent the distortion of tiles of this curved shape in the manufacture, two blocks or tiles are moulded together, back to back, with a space between, and connected throughout their length by projecting pieces. These pieces are partly cut through before firing, so that after firing they become readily separated, thus dividing the two tiles, which retain their original form.

7,236, Water Pipes exposed to Frost. J. Warwick.

To prevent, as far as possible, the action of frost, the inside of the lead pipe made according to this invention is formed with a series of corrugations running lengthwise, or of hexagonal piping. It is asserted that the force directed by the expansion of the water will squeeze out the pipe to a circular section and thus prevent bursting.

10,281, Domestic Stoves and Chimneypieces. Q. S. Backus.

According to this invention, where gas flame plays around the water or air in chambers, the chimneypieces are made hollow, with sections which are easily made into further chambers, in which heated air may be collected and then distributed through the room.

17,736, Building Blocks. T. S. Horn and J. J. Robson.

The building blocks made in accordance with this patent are for various purposes, and are made in natural or artificial stone, concrete, &c. V-shaped projections and depressions are cast upon the blocks, which fit one into another. Great strength appears to be attained by the peculiar form, and very little cement or mortar is required in fixing.

22, Improved Bolt. C. Groombridge and J. P. Rickman.

By this invention a bolt is made to slide in a casing or box provided with a slot formed by two circular openings, and the bolt is furnished with a thumb-piece or pusher capable of being turned in a horizontal direction so that it may pass from one slot to the other and then be turned in a vertical direction so as to lock the bolt in the casing.

856, Fireplaces, &c. F. A. Herbertz.

Instead of the usual grating at the bottom of the fireplace or furnace, which may become choked, a fireplate is, according to this invention, fitted, provided with "chamotte" lining (or some other equally refractory material) and adjustable so as to increase, diminish, or close the air openings.

954, Screw-drivers. D. R. Hart.

Instead of the screw-driver being formed in the usual shape, with a tapered and squared off end, the taper is, by this invention, but very slight, and the end is rounded a little so as to fit into the slit in the head of the screw, which takes this concave form from the circular form of the milling cutter. Thus the screw is moved with much more ease and certainty.

NEW APPLICATIONS FOR PATENTS.

March 23.—4,493, J. and A. Sizer, Chimney Cowls and Ventilators.

March 24.—4,518, J. Marston, Opening and Closing Fanlights, Skylights, &c.—4,526, J. Mann and Others, Portable Pneumatic Apparatus for Dressing Stone, &c.

March 26.—4,577, J. Judd, Door, Window, and Shop-front Folding Guards, &c.—4,581, P. Ayton, Casement Stays, &c.—4,632, H. Cawkwell, Manufacture of Tiles.

March 27.—4,660, E. Shorland, Air-warming Arrangements for Fireplaces and Stoves.—4,663, W. Whittle, Chimney Cowls.—4,672, J. Troop, Ventilator for Buildings and Curing Smoky Chimneys.—4,683, R. McIntosh, Connecting Cesspools or Traps to Sinks, Waterclosets, &c.—4,711, H. Lake, Lavatory Basins. — 4,712, H. Lake Lavatory Basins, Baths, &c.

March 28.—4,720, W. Shufflebottom and T. Brown, Fastening Bits in Bradawls.

March 29.—4,782, W. Booth, Fasteners for Window-sashes, &c.—4,783, S. Fenton, Spindles and Connexions for Door Knobs or Handles.—4,802, J. Firth, Opening and Closing Window-casements, Fanlights, Doors, &c., and Retaining them in any desired Position.—4,837, L. Cochepain, Tipping Carts and Wagons.

PROVISIONAL SPECIFICATIONS ACCEPTED.

13,676, H. Harris, Flushing Cisterns.—17,929, H. and T. Carter, Ventilating and Heating Halls and Rooms.—1,085, H. Newton, Chain Bolts for Doors.—1,990, G. Rogerson, Water Closets and their Flushing Pipes.—2,014, J. Dargue, Window Sash Fasteners.—2,193, J. Rogers, Flushing Cisterns or Water Waste Preventers.—2,299, F. Hubber, Basins for Water Closets.—2,482, W. Bartholomew, Water Closets.—2,499, S. Bott and Others, Sash Fasteners.—2,731, W. Graham, Wood Cutting Bow Saw.—2,764, J. Sharples, Circular Bits.—2,839, W. Steil, Water Closets.—3,002, J. Bailey and H. Tapp, Self-opening Doors.—3,085, H. Smith, Securing Handles on Door Spindles and Releasing them when necessary.—3,309, P. Corcoran, Machines for Dressing and Working Stone.—3,374, C. Hessel, Zinc White.—3,562, W. Day and G. Dimmer, Water Waste Preventing Syphon Cistern.—3,568, J. Walker, Roses for Door Knobs.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

4,458, W. Barker and R. Boyd, Die for Brick-making Machines.—5,188, M. Syer, Syphon Water Waste Preventer.—5,510, H. and E. Rielle, Pegs for Joinery, Carpentry, &c.—5,815, T. Lodge, Portland Cement.—6,804, J. Johnson, Machines for Sawing or Cutting Stone.—7,113, J. Horne and S. Hollyman, Warming and Ventilating Houses and Buildings.—7,238, F. Abbey, Machine for Promoting and Facilitating the Circulation of Air in Main Drains, &c.—7,584, H. Schallehn, Domestic Fireplaces.—8,024, J. Stevenson, Preservation of Woods.—16,529, S. Bond, Manufacture of Bricks, Tiles, &c.—2,531, A. Boult, Storm Doors for Buildings.

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

MARCH 26.

By CHESTERTON & SONS.

Kensington—41, Warwick - gardens, 61 years, ground-rent 4*l.*	£1,330
49, Scarsdale-villas, 73 years, ground-rent 8*l.*	750
18, Pembroke-square, 33 years, ground-rent 19*l.*	285

By C. R. CROSS.

Shepherd's Bush—15, Thornfield-road, freehold	445

By THOMAS, PEYER, & MILES.

Frome—The Frome Vinegar Works, 78 years, ground-rent 11*l.*	4,650

By BEAN, BURNETT, & ELDRIDGE.

Blackheath—The residences called Craig Cowan, and Southwold House, freehold	2,250
The freehold stabling in rear	250

MARCH 27.

By SALTER, REX, & Co.

Kentish Town—20, Herbert - street, 79 years, ground-rent 6*l.*	225

By GREEN & SON.

Shepherd's Bush—Ground-rent of 35*l.*, term 65 years	630

By WALKER & RUNTZ.

Gray's Inn-road—29, Ampton-street, 26 years, no ground-rent	515
Islington—12, Ann-street, 48 years, ground-rent 5*l.* 10*s.*	430
Stoke Newington—25 and 26, Somerford-grove, 22 years, ground-rent 9*l.*	144

By CHINNOCK, GALSWORTHY, & Co.

Westbourne-grove, Hereford-road—Ground-rents of 67*l.*, reversion in 33½ years	£2,895
Bayswater, Monmouth-road—Ground-rent of 14*l.*, reversion in 33½ years	635
The reversion to the freehold houses, Nos. 30 to 40 even, Monmouth-road, term 33½ years	850

By C. P. WHITELEY.

Finsbury Park—35, Adolphus-road, 85 years, ground-rent 12*l.* 12s.	500
Green-lanes—25, William-terrace, 95 years, ground-rent 6*l.* 10s.	215

MARCH 28.

By WOODS & SNELLING.

Poplar, Willis-street—Ground-rent of 3*l.* 10s., reversion in 28 years	75
Old Kent-road—40, Cooper's-road, freehold	275
Newington Butts—60 and 62, Albert-street, 56 years, ground-rent 9*l.*	495

By R. TIDEY & SON.

Islington—63, Englefield-road, 52 years, ground-rent 6*l.* 6s.	455
47, Buckingham-road, 36 years, ground-rent 4*l.* 10s.	315
158, Culford-road, 34 years, ground-rent 3*l.* 10s.	285

By F. JOLLY & Co.

Commercial-road, E.—No. 329, 50 years, ground-rent 30*l.*	540
Brixton—55 and 57, St. Lawrence-road, 75 years, ground-rent 8*l.* 8s.	490

MARCH 29.

By NEWBON & HARDING.

Islington—31 and 33, Essex-road, copyhold	1,170
Barnsbury—41, Thornhill-road, 21 years, ground-rent 6*l.*	350
Finsbury Park—62, 64, and 66, Blackstock-road, 83 years, ground-rent 18*l.*	1,665

By E. STIMSON.

Camberwell—2 to 6, The Parade; and 9 and 10, The Terrace, 92 years, ground-rent 54*l.* 10s.	1,030
Newington Causeway—105 to 111 odd, Union-road, 19½ years, ground-rent 12*l.*	640
4 and 5, Brunswick, 19½ years, ground-rent 6*l.*	270
Peckham—3, Copleston-road, 79 years, ground-rent 6*l.* 10s.	350
Lower Tooting—The Horse and Groom beerhouse, and 1 to 6, Leicester Cottages, 14 years, ground-rent 12*l.*	150

MEETINGS.

SATURDAY, APRIL 7.

Association of Public Sanitary Inspectors.—Mr. C. J. Easton on "Anomalies and Difficulties in the Work of a Sanitary Inspector." 6 p.m.

Edinburgh Architectural Association.—Visit to Bonhard House, Grange Pans, and Bo'ness.

MONDAY, APRIL 9.

Royal Institute of British Architects.—Professor Vivian B. Lewes on "Illumination and Ventilation: an Experimental Lecture." 8 p.m.

Society of Engineers.—Mr. William Santo Crimp on "The Wimbledon Main Drainage and Sewage Disposal Works." 7 30 p.m.

Clerks of Works' Association (Carpenters' Hall).—Annual Meeting. 7 p.m.

TUESDAY, APRIL 10.

Royal Institution.—Dr. Charles Waldstein on "John Ruskin."—I. 3 p.m.

Institution of Civil Engineers.—Mr. Arthur Ayres on "Compressed Oil-Gas, and its Applications." 8 p.m.

Parkes Museum (Lectures for Sanitary Inspectors).—Dr. A. Wynter Blyth on "The General History, Principles, and Methods of Hygiene." 8 p.m.

WEDNESDAY, APRIL 11.

Society of Arts.—Mr. Alfred Fletcher on "Recent Legislation concerning the Pollution of Air and Water." Sir Frederick Abel, F.R.S., will preside. 8 p.m.

Civil and Mechanical Engineers' Society.—Mr. Walter Emden on "Theatres and other Public Buildings." 7 p.m.

THURSDAY, APRIL 12.

Royal Archæological Institute.—(1) Rev. Sir Talbot H. B. Baker, Bart., on "Some Churches in South Gothland." (2) Mr. J. L. André on "Mural Paintings in Churches." 4 p m.

Society of Telegraph-Engineers and Electricians.—Mr. R. E. Crompton, M. Inst. C.E., on "Central Station Lighting (Transformers *v.* Accumulators)." 8 p.m.

Royal Institution.—Professor Dewar, M.A., F.R.S., on "The Chemical Arts." 3 p.m.

FRIDAY, APRIL 13.

Parkes Museum (Lectures for Sanitary Inspectors).—Sir Douglas Galton, F.R.S., on "Ventilation, Measurement of Cubic Space, &c." 8 p.m.

Miscellanea.

Birmingham Architectural Association.—The seventh ordinary meeting of this Association for the current session was held at Queen's College, on Tuesday evening, March 27th. Mr. John Cotton took the chair. The following gentlemen were elected members of the Association:—Messrs. A. E. Currall, R. F. Lee, and W. F. Moore. A paper was read by Mr. W. Doubleday (Vice-President) on "Mr. John Ruskin and the Stones of Venice." A discussion followed, in which the following gentlemen took part:—Messrs. J. Cotton, T. W. F. Newton, J. Ward, and Victor Scruton (hon. sec.). After a hearty vote of thanks to Mr. Doubleday the meeting terminated.

Junior Athenæum Club.—In reference to our recent notice of additions at the Junior Athenæum Club in our issue of 24th of March (p. 212, *ante*), Mr. Gilbert Seale, of Walworth, writes to say that he executed the whole of the stone carving.

The Turners' Company's Twentieth Annual Prize Competition.—The Master, Wardens, and Court of Assistants of the Worshipful Company of Turners, of London, according to their custom, propose to offer this year their Silver Medal and the Freedom of the Company to, and (subject to the consent of the Court of Aldermen) will also obtain the Freedom of the City of London for, any workman, whether master, journeyman, or apprentice in the trade, in the United Kingdom, who may send in the best specimen of turning in diamonds, glass, stone, and pottery. The competition in Glass includes blowing, cutting, and engraving. The competitions in Stone include any natural substance of mineral character, excluding, however, all those which, like china or pottery, require baking or burning. Porphyry, granite, jasper, agate, serpentine, marble, spar, stalagmite, alabaster, freestone, &c., are examples of what may be used. The qualities which will be considered in awarding the prizes are the following:—(1) Beauty and novelty of design, symmetry of shape, utility, and excellence of workmanship; (2) Exact copying, so that two or more objects produced (such as two vessels, vases, or other articles) may be facsimiles in every part, or exact measures of capacity; (3) Fitness of the work and design for the purpose proposed; (4) Skill in overcoming difficulties in regard to the material; and originality, or special skill in any other particular, as applied to this class of work. The competition in Pottery includes terra cotta, stoneware, earthenware, and porcelain. Full particulars of the conditions of competition may be obtained from Mr. Edgar Sydney, 4, Hare-court, Temple, E.C.

New Public Hall at Surbiton.—The great increase of Surbiton and the neighbourhood within the last few years has led to the formation of a company for the erection of a new public hall, which is immediately to be commenced. The building will be erected on what is known as the Elmes Estate, at the junction of Claremont and Surbiton Hill roads, having its principal frontage and entrance in the first-named road. The large hall will be capable of seating 800 persons, with a gallery at one end which will hold 200 more, the auditorium accommodation being thus equal to 1,000. At the end opposite to the gallery there will be a stage 40 ft. by 18 ft., from which two staircases will lead to three rooms underneath, with lavatories for the use of artistes engaged on the occasion of entertainments. The approach to the reserved seats will be near the stage, whilst at the opposite end will be the entrance to the other portion of the auditorium. There will also be two other entrances, making five entrances altogether, including the separate entrance to the stage and artistes' rooms. In addition to the principal hall there will also be a supper-room, 50 ft. by 30 ft., and a tea-room, 30 ft. by 20 ft., attached to which there will be a kitchen, with lifts to the principal hall. The principal entrance in Claremont-road will be under an ornamental portico. The hall is intended to be used for public meetings and lectures, as well as concerts and other entertainments. Its estimated cost is 6,000*l.*

Footpath Preservation in the Lake District.—We are given to understand by the Honorary Secretary of the Keswick and District Footpath Preservation Association that the very important test case of right of access to mountain summits, as involved in the Latrigg case at Keswick, is expected to be heard at the coming summer Assizes, Carlisle, and the costs involved are sure to be heavy. A guarantee fund is being raised, and it is hoped that every lover of our English lakes, or seeker of health or rest in the land of our lake poets, will not neglect to support the efforts made by the defendants in this case. Promises of guarantee or donations to the defence fund will be received and acknowledged by Mr. Henry Irwin Jenkinson, Keswick, Cumberland, the hon. sec. and treasurer.

New Barracks, Norwich.—The new barracks and hospital at Kett's Hill, Norwich, for the War Department, have just been completed, at a cost of nearly 50,000*l.*, by Messrs. Kirk & Randall, of Woolwich, who have, we understand, carried out the contract in about six months less than the contract time.

Discovery of a Painting by Murillo.—According to the *Correspondencia* (Madrid), a new painting by Murillo has been discovered in Spain. It dates from the painter's best time, and represents the Child Jesus sleeping on a Cross, and surrounded by angels.

The Air of Edinburgh Theatres.—An interesting account has been given by Mr. Cosmo J. Burton of the amount of carbonic acid and organic matter in the Theatre Royal and Royal Lyceum Theatre in Edinburgh. At the time of the experiments the theatres were by no means full; nevertheless, the temperature was from ten to fifteen degrees above that recorded immediately before the houses were opened, while carbonic acid was multiplied from three to five times. Mr. Burton remarks that the vitiation of the air proceeds with extraordinary rapidity at first, but the rate of change soon decreases, till towards the end of the performance the air becomes little or no worse, and, indeed, in a few instances it appeared to slightly improve. The atmosphere of all parts of the theatre was not equally vitiated; the air of the gallery was considerably worse than that of any other part of the house; the amphitheatre, dress circle, and pit did not come in the same order as to degree of impurity in the experiments, but the pit was always worse than the dress circle. The late Dr. Parkes stated that headache and vertigo are produced when the amount of carbonic acid in the air of respiration is not more than from fifteen to thirty volumes per 10,000, and our experience of some theatres leads us to suspect that Mr. Burton's results are not special to Edinburgh. The facts as to all theatres ought to be known; for the public had much better lose an evening's enjoyment than submit to the enforced inhalation of a polluted atmosphere for a number of hours.—*Lancet.*

Baptist School, Queensbury (near Bradford).—A new Baptist School was opened at Queensbury on the 31st ult. (adjoining the old premises, which are to be converted into ten class-rooms), consisting of an assembly-room, 62 ft. long, 32 ft. wide; an infants' room, 29 ft. by 19 ft.; cloak-room, and lavatory. The style is French Renaissance, very plainly treated; and the internal fittings are of pitch pine throughout. The cost of the works when completed is to be 1,300*l.*, and the architects are Messrs. Hodgson & Benton, of Sheffield.

Penny Science Lectures.—The popular science lecture arrangements at the Royal Victoria Hall and Coffee Tavern, Waterloo Bridge-road, S.E., for the present month, are as follow:—April 10th, Dr. W. D. Halliburton on "Digestion, including some account of Plants that eat Meat." April 17th, Professor George Henslow on "Movements of Plants." April 24th, Mr. W. P. Bloxam on "Soap-making."

The Parkes Museum of Hygiene.—We are glad to hear that the Duke of Westminster has just made a donation of 100*l.* to this museum, to aid in its work of practical teaching and demonstrating sanitary science.

The Roscoe Professorship.—Mr. W. M. Conway, we are asked to mention, has just resigned the Roscoe Professorship of Art in Liverpool, which he has held for some years, in order to settle in London.

The "Elephant and Castle" Horse Repository.—A large new building for this concern has recently been erected on the site of the old Repository in the New Kent-road.

Portable Engines.—Messrs. Wheatley Kirk, Price, & Goulty advertise a sale of portable engines and builders' plant for Thursday next, the 12th inst., at Banbury.

PRICES CURRENT OF MATERIALS.

TIMBER.	£. s. d.	£. s. d.
Greenheart, B.G. ....ton	6 10 0	7 15 0
Teak, E.I. ....load	8 0 0	12 10 0
Sequoia, U.S. ....foot cube	0 2 3	0 3 0
Ash, Canada ....load	3 0 0	4 10 0
Birch ,, ...load	2 0 0	3 10 0
Elm ,, ...load	3 10 0	4 10 0
Fir, Dantsic, &c. ....load	1 10 0	4 0 0
Oak ,, ...load	2 10 0	4 10 0
Canada ....load	3 0 0	6 0 0
Pine, Canada red ....load	2 0 0	3 10 0
,, yellow....load	2 0 0	4 0 0
Lath, Dantsic ....fathom	3 0 0	5 0 0
St. Petersburg ....load	4 0 0	5 10 0
Wainscot, Odessa, crown....load	2 10 0	3 0 0
Deals, Finland, 2nd and 1st...std.100	7 10 0	9 0 0
,, 4th and 3rd std.100	6 0 0	8 0 0
Riga ....load	5 10 0	7 10 0
St. Petersburg, 1st yellow ....load	8 10 0	14 0 0
,, 2nd ,, ...load	7 0 0	8 0 0
,, white ....load	6 10 0	8 10 0
Swedish ....load	6 15 0	15 0 0
White Sea ....load	7 0 0	16 10 0
Canada, Pine, 1st ....load	16 0 0	24 0 0
,, ,, 2nd....load	10 0 0	15 10 0
,, ,, 3rd, &c....load	7 0 0	9 10 0
,, Spruce, 1st ....load	8 0 0	9 10 0
,, ,, 3rd and 2nd....load	5 0 0	7 0 0
New Brunswick, &c....load	5 0 0	7 0 0

TIMBER (*continued*).	£.	s.	d.	£.	s.	d.
Battens, all kinds	4	0	0	10	10	0
Flooring Boards, sq., 1 in., prepared, First	0	8	0	0	11	6
Second	0	6	6	0	7	6
Other qualities	0	4	0	0	6	0
Cedar, Cuba ..... foot	0	0	3½	0	0	3½
Honduras, &c.	0	0	3	0	0	3½
Australian	0	0	2	0	0	3
Mahogany, Cuba	0	0	4½	0	0	7
St. Domingo, cargo average	0	0	4½	0	0	6
Mexican ,,	0	0	3½	0	0	3½
Tobasco ,,	0	0	4	0	0	5
Honduras ,,	0	0	4	0	0	5
Maple, Bird's-eye	0	0	5	0	0	7
Rose, Rio ..... ton	8	0	0	11	0	0
Bahia	7	0	0	9	0	0
Box, Turkey	5	0	0	12	0	0
Satin, St. Domingo ..... foot	0	0	5	0	0	9
Porto Rico	0	0	6	0	0	10
Walnut, Italian	0	0	4	0	0	5½

METALS.						
IRON—Bar, Welsh, in London ... ton	4	15	0	4	17	6
,, ,, in Wales	4	5	0	4	10	0
,, Staffordshire, London	5	10	0	7	0	0
COPPER—						
British, cake and ingot ..... ton	79	0	0	0	0	0
Best selected	80	0	0	0	0	0
Sheets, strong	90	0	0	0	0	0
Chili, bars	80	5	0	80	15	0

METALS (*continued*).	£.	s.	d.	£.	s.	d.
YELLOW METAL ..... lb.	0	0	7½	0	0	7½
LEAD—						
Pig, Spanish ..... ton	14	2	6	0	0	0
English, common brands	14	7	6	14	10	0
Sheet, English	15	7	6	15	10	0
SPELTER—						
Silesian, special ..... ton	19	0	0	19	5	0
Ordinary brands	18	15	0	19	0	0
TIN—Straits ..... ton	166	0	0	0	0	0
Australian	166	0	0	0	0	0
English ingots	157	10	0	0	0	0
ZINC—						
English sheet ..... ton	22	0	0	23	0	0

OILS.						
Linseed ..... ton	18	12	6	18	15	0
Cocoanut, Cochin	27	10	0	29	0	0
Ceylon	24	10	0	0	0	0
Palm, Lagos	21	10	0	0	0	0
Rapeseed, English pale	23	10	0	24	0	0
,, brown	22	12	6	22	15	0
Cottonseed, refined	20	10	0	0	0	0
Tallow and Oleine	35	0	0	45	0	0
Lubricating, U.S.	5	0	0	6	0	0
,, refined	5	0	0	12	0	0
TURPENTINE—						
American, in casks ..... cwt.	1	8	6	0	0	0
TAR—						
Stockholm ..... barrel	0	15	0	0	15	6
Archangel	0	10	0	0	10	6

CONTRACTS AND PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

CONTRACTS.

Nature of Work, or Materials.	By whom required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page
Repair of Private Road, South Norwood	Croydon Cor.	*Official*	April 10th	ii.
Pavements, Crossings, &c.	Hove Commissioners	do.	April 11th	xi.
Granite Setts	Birmingham Pub. Wks.	do.	April 12th	ii.
House, East Molesey	Burgess & Hodgson	.....	do.	xi.
Granite Kerb, York Paving, & Granite Cubes	Paddington Vestry	*Official*	April 16th	xii.
Road-making Work	Met. Asylums Board	do.	do.	xi.
New Bridge over River Lagan	Belfast Corporation	J. C. Bretland	April 17th	ii.
Railway Stores	L. B. & S. C. Ry. Co.	*Official*	April 18th	ii.
Engine and Boiler Houses, &c.	Portsmouth Watrwks C.	J. Quick & Son	April 19th	ii.
Alterations, &c., to Board Schools	Chelsfield School Board	G. St. Pierre Harris	April 20th	xi.
Execution of Day and Measured Works	Met. Board of Works	*Official*	do.	xi.
Wood Carriageway, &c., Hammersmith	do.	do.	do.	ii.
Road Materials	Kingston-on-Thms. Cor.	do.	April 21st	xii.
Granite Carriageways, &c.	Met. Board of Works	do.	April 27th	xi.
Pulling-down Church, near Liverpool	.....	Grayson & Ould	Not stated	xii.
Mansion Residence, Willesden	.....	W. M. L. Seaman	do.	xi.
Foundations of New Bank, Manchester	Nat. Prov. Bk of England	A. Waterhouse	do.	xii.
Warehouse, Shops, &c.	S. Moses, Esq.	Dunk & Geden	do.	xi.
Road-making & Laying Sewers, Catford Bridge	.....	F. Stocker	do.	xii.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page
Clerk of Works	Birmingham Pub. Wks.	2*l.* 10s. weekly	April 12th	xvii.
Assistant Inspector	do.	2*l.* 2s. ,,	do.	xvii.
Borough Surveyor	Dorchester Town Cncl.	150*l.*	April 14th	xvi.
Borough Surveyor	Borough of Reigate	200*l.*	April 17th	xvi.
Clerk of Works	Civil Service Com.	Not stated	April 24th	xvi.

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *Noon on Thursdays*.]

ASCOT.—For alterations to Mr. Streate's premises. Mr. W. I. Chambers, architect, Woking:—

Longhurst, Sunningdale	£320	0	0
Watson, Ascot	285	0	0
Shears, Maybury	248	0	0
Charman, Ascot	236	0	0
Trust, Ascot (accepted)	183	0	0

BRISTOL.—For the erection of the Crown and Dove tavern, Bridewell-street, Bristol. Mr. Wm. Bruce Gingell, architect, Alliance-chambers, Bristol. Mr. A. Barratt, quantity surveyor, Somerset-chambers, Bristol:—

E. Walters	£2,250	0	0
Lewis & Sons	2,209	0	0
E. Gay	2,115	0	0
H. A. Forse	2,090	0	0
Cowlin & Son	2,075	0	0
Geo. Humphreys	2,069	0	0
T. R. Lewis	2,047	0	0
E. Love	2,024	0	0
W. Veals	1,994	0	0
C. A. Hayes	1,987	0	0
Stephens, Bastow, & Co.	1,979	0	0
Beachim & Balmont	1,965	0	0
W. Brock & Son (accepted)	1,870	0	0
J. E. Davis (too late).			

CHELSEA.—For alterations at No. 190, King's-road, S.W., for Mr. A. Duerre. Mr. Mark Fawcett, architect:—

J. Hope	£258	0	0
Langdale, Hallet, & Co.	230	0	0
E. F. Gardner	180	0	0
C. P. Mills (accepted)	162	10	0

DOVER.—For the erection of a dwelling-house, Maison Dieu-road, for Mrs. Elvery. Mr. Edward W. Fry, architect:—

Brisley, Dover	£1,592	0	0
Parsons	1,560	0	0
Hayward & Paramor, Folkestone	1,298	0	0
H. Stiff, Dover	1,285	0	0
W. & T. Denne, Walmer	1,250	0	0
Dawes, Dover	1,250	0	0
Trollope, Walmer	1,240	0	0
Steele, Dover	1,225	0	0
Austin & Lewis, Dover	1,208	0	0
W. G. Lewis, Dover	1,192	0	0
Lewis & Chandler	1,170	0	0
W. Bromley, Dover (accepted)	1,095	0	0

COVENTRY.—For shedding butts, Coventry, for Messrs. Herbert & Hubbard. Mr. E. J. Purnell, surveyor:—

Hill, Coventry	£223	0	0
Mayo, Coventry	200	0	0
Heap, Bedworth	200	0	0
Worwood, Coventry	193	0	0
Haywood, Coventry (accepted)	189	0	0

EALING.—For alterations and additions to auction rooms, &c., for Messrs. J. Griffin & Son. Mr. George Ashby Lean, architect, 67, Chancery-lane, W.C.:—

	Main Building.	Paving Forecourt.
Penny & Co.	£378	£26
W. Loving	315	23

ENFIELD.—For sinking a deep well at their pumping station, Alma-road, Ponder's End, for the Enfield Local Board of Health. Mr. Wm. Kitteringham, engineer and surveyor:—

W. Brown, Tottenham	£3,450	0	0
W. Hill & Sons, Westminster	2,400	0	0
Thos. Tilley & Sons, Walbrook*	2,300	0	0

* Accepted.

EPSOM.—For the erection of house and school in the Upper Downs-road, Epsom, Surrey. Mr. J. Hatchard Smith, architect, 41, Moorgate Station-buildings, E.C.:—

Lascelles & Co., London	£4,010	0	0
Colls & Son, London	3,898	0	0
Maides & Harper, Croydon	3,657	0	0
S. Page, Croydon	3,580	0	0

HAMPSTEAD.—For decorations at 64, Fellows-road, South Hampstead, for Mr. Bendit. Mr. Arthur Ashbridge, architect, 76, Leadenhall-street:—

Calnan & Co.	£147	0	0
Grey & Martin	97	0	0
A. Taylor & Co., Miles-lane, E.C.*	89	0	0

* Accepted.

HARROW.—For the completion of two houses at Hindes-road. Mr. Christopher M. Shiner, architect, 15, New Broad-street, E.C.:—

Rhodes	£720	0	0
Drury	620	0	0
J. G. Potter	615	0	0
J. O. Richardson	426	0	0

HATCHAM.—For new mission-hall at Hatcham, for the Rev. S. A. Selwyn. Messrs. Newman & Newman, architects, 31, Tooley-street, London Bridge. Quantities by Mr. W. Farthing, 46, Strand:—

L. H. & R. Roberts	£2,662	0	0
G. E. Hawes	2,580	0	0
E. Good	2,556	7	0
J. K. Coleman	2,444	0	0
J. & J. Greenwood	2,349	0	0
J. & H. Castle	2,340	0	0
C. Ansell	2,333	0	0
S. J. Jerrard	2,329	0	0
Holloway Bros.	2,279	0	0
Almond	2,275	0	0
B. Wells	2,225	0	0
H. L. Holloway	2,190	0	0
J. Bullers	2,175	0	0
J. Richardson	2,165	0	0
A. Thomas	2,150	0	0
Balaam Bros. (accepted)	2,080	0	0

LEYTONSTONE.—For additions, alterations, &c., at the Leytonstone Baptist Church. Mr. John E. Sears, architect, New Bridge-street. Quantities by Mr. Geo. Fleetwood:—

	Galleries and Structural Alterations.	Other Works.	Total.
Dove Bros.	£1,320	£370	£1,690
Roberts	1,260	312	1,572
Brown, Kruse, & Co.	1,256	293	1,549
T. Gregory & Co.	1,223	323	1,546
Clarke & Bracey	1,207	279	1,486
Marsland	1,130	325	1,455
Hollingsworth	1,179	267	1,446
F. & H. F. Higgs	1,158	262	1,420
J. Catley	1,038	260	1,298

LONDON.—For erecting Hanover new schools, Gilbert-street, W. Mr. W. D. Caröe, M.A., architect. Quantities by Messrs. Evans & Deacon:—

		Alternative.
Cornish & Gaymer	£7,708	£7,339 0 0
Holland & Hannen	7,377	6,882 0 0
Colls & Sons	6,642	6,233 0 0
Hill Bros.	6,090	5,743 0 0
Hughes & Stirling	6,350	5,696 6 2
Shillitoe & Son	5,995	5,687 0 0
Gladding	5,828	5,374 18 11
Kirk & Randall	5,633	5,322 0 0
Patman & Fotheringham	5,555	5,200 0 0
Turtle & Appleton	5,580	5,115 0 0*

* Accepted.

LONDON.—For the erection of hall and class-room, Bunhill-fields, for the Society of Friends. Mr. Rutland Saunders, architect, 6, Bishopsgate-street Without, E.C. Quantities supplied:—

Mattock Bros.	£3,493	0	0
Jerrard	3,389	0	0
J. Sargeant	3,300	0	0
Ashby Bros.	3,286	0	0
Holloway Bros.	3,276	0	0
E. A. Roome	3,260	0	0
H. L. Holloway	3,183	0	0
J. Woodward (accepted)	3,100	0	0

LONDON.—For excavating site, constructing foundations, and basement story of business premises, at the corner of Shaftesbury-avenue and Denman-street. Messrs. N. S. Joseph & Smithem, architects, 45, Finsbury-pavement:—

Colls & Son	£1,475	0	0
Ashby & Horner	1,460	0	0
Patman & Fotheringham	1,385	0	0
Mark Patrick & Son (accepted)	1,384	0	0

LONDON.—For clearing away old buildings, and constructing the foundations and basement story of a private residence on the site of Nos. 20 and 20a, Hyde Park-place, W. Messrs. N. S. Joseph & Smithem, architects:—

Patman & Fotheringham	£895	0	0
Wm. Shepherd	748	0	0
Alfred Bush	737	0	0

MANSFIELD (Notts).—For the erection of house and shop, Union-street, Mansfield. Mr. R. F. Vallance, architect, Mansfield:—

J. Greenwood	£375	0	0
J. Allen	476	5	0
W. A. Vallance	464	0	0
H. Alsop	436	5	0
R. Newton	390	13	0
J. Wignell, Newark*	385	0	0
S. Dudson	368	10	0
E. Cuddy (accepted)	366	0	0

* The rest of Mansfield.

NEWMARKET.—For building new residence for Mr. H. Martin, draper, Bury-road, Newmarket. Messrs. Holland & Sons, architects:—

Kerridge & Shaw	£1,534	0	0
Simpson & Son	1,420	0	0
W. Saint	1,298	0	0
Blyth & Hunt	1,250	0	0
Saint & Sons	1,240	0	0
Plummer	1,229	0	0
Cowell & Son	1,183	0	0

NEWMARKET.—For building new residence for Mr. D'Albani, solicitor, Bury-road, Newmarket. Messrs. W. C. & A. S. Manning, architects:—

G. Slater	£2,045	0	0
W. Saint	1,945	0	0
Thoday & Son	1,837	0	0
Linzell	1,700	0	0
Cowell & Son	1,680	0	0
Saint & Sons	1,665	0	0
W. Wade	1,660	0	0
Geo. Hook	1,575	12	6
Plummer & Hook	1,522	0	0

PLEASLEY (Notts).—For the erection of four cottages, Pleasley Hill. Mr. R. F. Vallance, architect, Mansfield:—

J. Greenwood	£695	0	0
J. W. Redwood, Sutton-in-Ashfield*	592	0	0
R. Newton	567	0	0
S. Dudson (accepted)	565	14	8

* The rest of Mansfield.

RICHMOND (Surrey). — For making up private streets in the Kew Gardens district. Mr. Walter Brooke, Assoc. M. Inst. C.E., Town Surveyor:—

J. Mowlem & Co., Westminster	£13,615 0 0
S. Hudson, Sevenoaks	12,292 0 0
T. Adams, Kingsland	12,267 0 0
R. Ballard, Child's Hill Farm	12,223 0 0
C. Killingback, Camden-town	12,171 0 0
Nowell & Robson, Kensington	11,469 0 0
Woodham & Fry, Greenwich	11,335 17 9
J. Blomfield, Tottenham	11,275 9 0
G. Aldred, Strand-on-the-Green, Chiswick	11,263 0 9
S. Atkins, Kingston-on-Thames	10,462 0 0
J. G. B. Marshall, Brighton	10,300 0 0
G. Neal & Co., Limited, Wandsworth (accepted)	10,140 0 0

ROTHERHITHE.—For erecting two houses at Forsyth-street, Rotherhithe. Mr. Arthur Ashbridge, architect, 76, Leadenhall-street:—

A. Taylor & Co., Miles-lane, E.C.*	£540 0 0

* Accepted.

SOUTHWARK.—For the erection of a manufactory, chimney-shaft, &c., at The Grove, Southwark, S.E., for Mr. John D. Fry. Mr. J. Douglass Mathews, F.R.I.B.A., architect, 11, Dowgate-hill, E.C.:—

		Less for Old Materials.
Dove Bros.	£11,135	£180
Roberts	10,782	210
Chappell	10,537	100
Colls	10,468	66
Rider	10,268	50
Nightingale	9,820	100
Grover & Son	9,888	200
Kilby & Gayford	9,727	100
Ashby & Horner	9,540	—
Lawrence & Sons	9,537	125
Shepherd (accepted)	9,263	300
Brass (withdrawn)	8,852	75
Ironwork.		
M. Shaw & Co.	£2,772 14 0	
Lindsay & Co. (including fireproof floors, &c.)	2,666 0 0	
Measures Bros. & Co.	2,558 0 0	
Homan & Rodgers	2,267 0 0	
R. Moreland & Son (accepted)	1,949 0 0	

STOKE NEWINGTON.—For the erection of four shops, Nos. 96, 96a, 98, 98a, High-street, Stoke Newington, for Mr. A. Hart, under the superintendence of Mr. Wm. Eve, F.S.I., 10, Union-court, Old Broad-st., E.C.:—

Salt	£2,770 0 0
Hicks	2,716 0 0
Wall Bros.	2,596 0 0
Stimpson	2,588 0 0
Gould & Brand	2,532 0 0
Anley	2,510 0 0
Holloway	2,497 0 0
Battershill	2,495 0 0
Lawrance & Son	2,495 0 0
Holliday & Greenwood (too late)	2,489 0 0
Holland	2,479 0 0
Shurmur	2,475 0 0
Higgs	2,438 0 0
Dabbs	2,369 0 0
Chappell	2,366 0 0
Jackson & Todd	2,349 0 0
Godfrey & Son*	2,348 0 0
Harris & Wardrop, Walwood-street, Limehouse (accepted)†	2,348 0 0

* Allowance of 6d. per yard if shoot be provided.
† „ 1s. „ „ „

STOKE NEWINGTON.—For the erection of stable buildings, boundary walls, entrance gates, fencing, &c., to No. 218, Green-lanes, Stoke Newington, for Mr. A. Mears. Mr. John Groom, architect, 1, Broad-street-buildings, E.C.:—

H. L. Holloway (accepted)	£810 0 0

[No competition.]

TOTTENHAM. — For building dwelling-house and auction rooms, for Mr. W. Hadlow, jun. Mr. J. W. Couchman, architect:—

Groves	£920 0 0
Veale	860 0 0
Knight & Son	852 0 0
Wilson & Stickley	835 10 0

TUNBRIDGE WELLS.—For proposed alterations and additions to the Bedford Hotel, High-street, for Messrs. Kenward & Court. Messrs. H. H. & E. Cronk, architects:—

Muffett	£435 0 0
Adams	398 12 0
Canty	389 0 0

WOKING.—For new cottage, Woking, for Mr. F. Matyear. Mr. W. I. Chambers, architect, Woking:—

Jas. Whitburn	£325 0 0
J. Harris & Sons	297 10 0
Geo. Shears	290 0 0
Jas. Wilson	283 0 0
A. A. Gale	275 0 0
Henry Ingrsm	247 0 0
W. J. Butt (accepted)	235 0 0

[All of Woking.]

WORCESTER.—For a temporary chapel building at the Blind College, Worcester. Messrs. Lingen-Barker & Cross, architects, Weston-super-Mare:—

Edwards, Leominster (accepted)	£250 0 0

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